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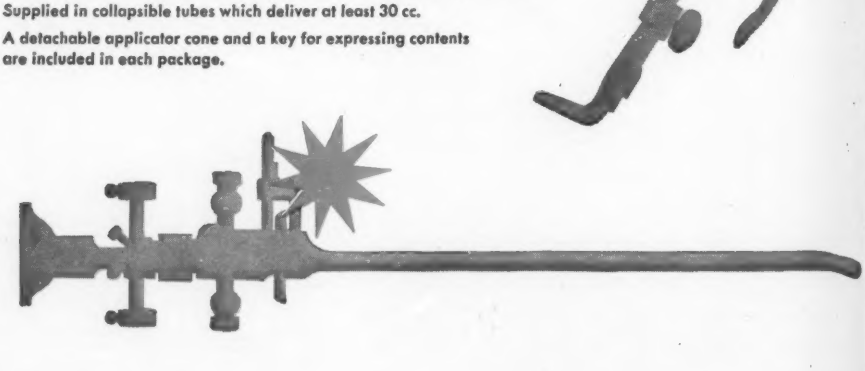

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VOL. 119 December, 1956 NO. 6

MILITARY MEDICINE

ORIGINAL ARTICLES

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Civilian Doctors and Army Stars: A Historical Vignette

By

BRIGADIER GENERAL JAMES B. MASON, USAR

Senior Consultant to The Surgeon General for Reserve Affairs

SINCE colonial days civilian doctors have played important and varying roles in the defense of our country. Generally they have served as "hewers of wood and drawers of water" in the medical vineyard, rather than from the lofty vantage of command. But in no capacity, until recent years, has the voice of any one of them known the comforting support provided by stars on his shoulders.

This essay records factual data pertaining to reserve general officers of the Army Medical Service. As fitting background and introduction, the historic beginning of the Army Medical Service, the chronology of grade of The Surgeon General, and selected noteworthy activities of regular Army doctors of flag rank have been cited.

The Army Medical Service was established in Boston in June, 1775 with Dr. Benjamin Church of that city in charge as Chief Physician of Hospitals of the Army.[1] He was succeeded later in the same year by Dr. John Morgan of Philadelphia who served under the title of the Director General and Physician in Chief of American Hospitals through 1777.[1]

The title, The Surgeon General of the Army, was authorized in 1818 with Dr. Joseph Lovell, the incumbent from 1818 to 1836, holding the rank of Colonel.[1] General officer rank was accorded the position of Surgeon General in 1862 when the incumbent Dr. William A. Hammond was promoted to the grade of Brigadier General.[1] The Surgeon General continued in this grade until 1914 when Brigadier General William C. Gorgas was advanced to the grade of Major General.[1] Earlier, promotion to this rank had been strongly urged for Surgeon General George M. Sternberg on the occasion of his retirement in June 1902. The civilian medical profession, the War Department and the Senate were favorable to this recognition of a great doctor, but the House of Representatives regrettably defeated the bill.[2] Since General Gorgas' time all Surgeons General have been Major Generals of the Regular Army. There have been recurrent attempts during the past fifteen years to secure an advance in the grade of The Surgeon General to that of Lieutenant General, without success. The contention is surely justified and the Army records show that during World War II this grade was accorded the Quartermaster General and the Chief of Army Engineers. Presently the latter is the only head of an Army Technical or Administrative Service to wear the three stars (Lt. Gen. Sam Sturgis, now retired).

The following comments further portray the general officer situation in the Army Medical Service and the Active Army. The official list of general officers of the Army,

in order of precedence, is published annually by The Adjutant General without designation of Arm or Service of origin. The number of officers, who may serve in flag grades, is zealously controlled by the Congress. Within the authorized ceiling the Army Medical Service is furnished a quota by the Secretary. For example, a recent allocation provided for twenty general officers from the Medical Corps with 50% authorized in the grade of Major General; four from the Dental Corps, with one in the grade of Major General; and one Brigadier General, by statute, as Chief of the Veterinary Corps.[3] Selection boards operate on a best qualified basis within prescribed criteria. Promotions of those recommended to him by the Department are accomplished by the President with the consent of the Senate, within the schedule of vacancies.

Doctors should recall with pride that numerous physicians, since the birth of our nation, have served as general officers, commanding units of the combatant arms in battle. From this select coterie two noteworthy examples, from the Revolutionary War, are cited as representative, Major General Joseph Warren of the Massachusetts Militia was killed at Bunker Hill in 1775, and Major General Hugh Mercer of New Jersey attained considerable prominence as a troop leader. The writer would however be remiss if he neglected to list the names of several regular Army doctors who became general officers and who contributed in diverse fields with distinction. Perhaps the most eminent was Dr. Leonard Wood, who as a Major General, held the post of Chief of Staff of the Army immediately prior to World War I, and who had been decorated with the Congressional Medal of Honor for service in the Southwest against the Apache Indians. Physicians may note with satisfaction that Dr. Albert J. Meyer founded the Signal Corps in 1866; Dr. Fred C. Ainsworth (Brigadier General in SGO) founded the Adjutant General's Office in 1904; and that Dr. H. L. Gilchrist became the first Chief of the Chemical Corps in 1925.[1]

The civilian physicians, who have been considered in this vignette, are limited to those who have received appointments as general officers from the President of the United States, by and with the consent of the Senate. (See Chart I.) It is to be recorded parenthetically that there were no general officers of the reserve within the Army Medical Service prior to World War I, despite the authority contained in the Medical Reserve Act of 1908 which accorded the Army Medical Service with a FIRST in Reserve Activities. In addition, the essayist has excluded from consideration those civilian physicians who have achieved flag rank by virtue of command of combat formations. Also those medical officers elevated to general officer grade by the Governor of a State after retirement from the National Guard have been eliminated. The names of two regular officers who were retired as Colonels and later advanced to Brigadier General in the Reserve have been added because of their splendid contributions to civilian medicine.

The majority of Doctors of Medicine, who have been advanced to star positions, have in addition to professional accomplishments, a background of service in the Army reserve. These doctors, after return to civilian life, have, despite the exigencies of the private practice of medicine, maintained a deep and continuing interest in the national security. As noted in the inclosure, eight of these men presently hold active positions in the reserve.

The areas of activity of the initial appointees were almost exclusively in the fields of professional consultantships in the medical specialties, while in recent years the emphasis has shifted to the command of major units of the reserve. Lest there be reader apprehension, additional general officer spaces will be made available in time of emergency, to be filled by selected professional consultants on recommendation by The Surgeon General.

The reserve general officers, listed in Chart I, fall into three general groupings. First, there were those who served in World War I

CHART I

Biographical Sketches of Reserve General Officers

WORLD WAR I

Brigadier Generals

Lewis Atterbury Conner, New York. Born 1867, died 1937. M.D. Columbia University 1890. Professor of Medicine, Cornell University. Chief of Division of Internal Medicine, SGO, World War I. Promoted to Brigadier General ORC 1919.

George W. Crile, Cleveland. Born 1864, died 1943. M.D. Wooster University, Cleveland 1887. Founder Cleveland Clinic. Professor Clinical Surgery, Western Reserve. Senior Consultant in Surgical Research OTSG. Promoted to Brigadier General ORC 1921.

George E. de Schweinitz, Philadelphia. Born 1861, died 1938. M.D. University of Pennsylvania 1881. Professor of Ophthalmology, University of Pennsylvania. Consultant in Ophthalmology to The Surgeon General. Promoted to Brigadier General ORC 1921.

John M. T. Finney, Baltimore. Born 1863, died 1942. M.D. Harvard Medical School 1889. Professor of Surgery, Johns Hopkins Medical School. Chief Consultant in Surgery to AEF (B/G USA 1918 AEF). Promoted to Brigadier General ORC 1921.

Joel Goldthwait, Boston. Born 1866. M.D. Harvard Medical School 1890. Professor of Orthopedic Surgery, Harvard Medical School. Consultant in Orthopedic Surgery to The Surgeon General. Promoted to Brigadier General ORC 1921.

Charles H. Mayo, Rochester, Minnesota. Born 1865, died 1934. M.D. Northwestern University 1888. Cofounder of the Mayo Clinic. Professor of Surgery, University of Minnesota Graduate School. Consultant in Surgery to The Surgeon General. Promoted to Brigadier General ORC 1921.

William J. Mayo, Rochester, Minnesota. Born 1861, died 1939. M.D. University of Michigan 1893. Cofounder of the Mayo Clinic. Professor of Surgery, University of Minnesota Graduate School. Consultant in Surgery to The Surgeon General. Promoted to Brigadier General ORC 1921.

Fred T. Murphy, Detroit. Born 1872, died 1948. M.D. Harvard Medical School 1901. Professor of Surgery, Washington University. Director Medical and Surgical Department of American Red Cross, representing Chief Surgeon AEF (rank of Colonel) World War I. Promoted to Brigadier General ORC 1921.

Frederic F. Russell, New York. Born 1870. M.D. Columbia University 1893. Professor of Pathology and Bacteriology, simultaneously at Army Medical School and George Washington University. Resigned in 1920 after 22 years service. Professor of Preventive Medicine Harvard Medical School, Professor of Epidemiology Harvard School of Public Health. Director, International Health Division, Rockefeller Foundation. Promoted to Brigadier General ORC 1921.

Thomas W. Salmon, Larchmont, New York. Born 1876, died 1927. M.D. Albany University 1899. Staff Rockefeller Foundation and Professor of Psychiatry, Columbia University. Senior Consultant in Psychiatry AEF, World War I. Brigadier General ORC 1921.

Henry Alden Shaw, Rutland, Massachusetts. Born 1867. M.D. Harvard Medical School 1890. Served in Surgeon General's Office. Colonel USA Retired. Promoted to Brigadier General ORC 1922.

William S. Thayer, Balitmore. Born 1864, died 1932. M.D. Harvard Medical School 1889. Professor of Medicine, Johns Hopkins University. Chief Consultant Medicine AEF (B/G USA 1918 AEF). Promoted to Brigadier General ORC 1921.

William H. Welch, Baltimore. Born 1850, died 1934. M.D. Columbia University 1875. Professor of Pathology, Johns Hopkins University. Consultant in Pathology to The Surgeon General. Promoted to Brigadier General ORC 1921.

William H. Wilmer, Baltimore. Born 1863, died 1936. M.D. University of Virginia 1885. Professor of Ophthalmology, Johns Hopkins University. Surgeon in Charge, Research Laboratories, AEF, World War I. Promoted to Brigadier General ORC 1921.

Sanford H. Wadhams, Torrington, Connecticut. Born 1874. M.D. Yale University 1896. Served on General Staff HQ, AEF. Colonel USA Retired. Dean of New York Post-Graduate School, 1921-1923. Promoted to Brigadier General ORC 1921.

WORLD WAR II

Brigadier Generals

Stanhope Bayne-Jones, Washington, D.C. Born 1888. M.D. Johns Hopkins 1910. Professor of Bacteriology, Rochester University. W.W. II Deputy Chief Preventive Medicine Service, Director U. S. Army Typhus Commission, Administra-

tor-Epidemiological Board, all in OTSG. Recently Director of Technical Research OTSG. Promoted to Brigadier General AUS 1944 and ORC 1947. (World War I and World War II)

Elliott C. Cutler, Boston. Born 1888, died 1947. M.D. Harvard Medical School 1909. Moseley Professor of Surgery, Harvard Medical School. Chief Consultants Division Office Chief Surgeon ETO. Promoted to Brigadier General AUS 1945. (World War I and World War II.)

William C. Menninger, Topeka, Kansas. Born 1899. M.D. Cornell University 1924. Co-head Menninger Foundation, Topeka. Chief Consultant Neurology and Psychiatry to The Surgeon General. Promoted to Brigadier General AUS 1945 and ORC 1947. (World War II)

Hugh J. Morgan, Nashville, Tennessee. Born 1893. M.D. Johns Hopkins 1918. Professor of Medicine, Vanderbilt University School of Medicine. Chief Consultant in Medicine to The Surgeon General. Promoted to Brigadier General AUS 1942. (World War I and World War II)

Fred W. Rankin, Lexington, Kentucky. Born 1886. died 1954. M.D. University of Maryland 1909. Former surgeon, the Mayo Clinic and Clinical Professor of Surgery University of Louisville. Chief Consultant in Surgery to The Surgeon General. Promoted to Brigadier General AUS 1942. (World War I and World War II)

I. S. Ravdin, Philadelphia. (See below.) Chief of Surgical Service and later Commanding General 20th General Hospital CBI. Promoted to Brigadier General AUS 1945 and ORC 1947. (World War I). His was the only General Hospital commanded by a Flag Officer in a theatre of operations during World War II or any other war to date.

POST WORLD WAR II/KOREAN WAR

Major Generals

Isidor S. Ravdin, Philadelphia, Born 1894. M.D. University of Pennsylvania 1918. John Rhea Barton Professor of Surgery, University of Pennsylvania, Philadelphia. World War II assignment as Commanding General 20th General Hospital CBI. Promoted to Brigadier General USA in 1945. Promoted to Major General USAR December 1954. Presently Chairman, Board of Regents, American College of Surgeons. Senior Consultant to The Surgeon General for Professional Medical Affairs. (World War I and World War II)

Brigadier Generals

Frank B. Berry, Washington, D.C. Born 1892. M.D. Harvard Medical School 1917. Professor of Surgery, College of Physicians and Surgeons Columbia University. Surgical Consultant Seventh US Army ETOUSA. Assistant Secretary of Defense (Health and Medical) since 1953. Promoted to Brigadier General USAR 1949. (C.G. 314th Hospital Center) (World War I and World War II)

Daniel C. Elkin, Elkins Place, Lancaster, Kentucky. Born 1893. M.D. Emory University 1920. Professor of Surgery, Emory University. Chief of Surgical Service Ashford General Hospital. President, American College of Surgeons (12 Oct. 1956). Promoted to Brigadier General USAR 1949. (C.G. 306th Hospital Center) (World War II)

Thomas Rodman Goethals, Boston. Born 1890. M.D. Harvard Medical School 1916. Clinical Professor of Obstetrics, Harvard Medical School. C.O. 6th General Hospital, Pacific Theatre. Promoted to Brigadier General USAR 1949. (C.G. 803rd Hospital Center) (World War I and World War II)

Harold L. Goss, Seattle, Born 1890. M.D. University of Minnesota 1917. Ophthalmologist, Providence Hospital, Seattle. Hospital Commander in Africa and Italy, World War II. Promoted to Brigadier General USAR 1949. (C.G. 310th Hospital Center)

Edward T. Kirkendall, Columbus, Ohio. Born 1891, died 1952. M.D. Ohio State University 1926. C.O. 49th Evac. Hosp. ETOUSA, affiliated with Ohio State University Medical School. Associate Professor of Radiology, Ohio State University. Promoted to Brigadier General USAR 1949. (C.G. 806th Hospital Center) (World War I and World War II)

Perrin H. Long, New York. Born 1899. M.D. University of Michigan 1924. W.W. II, Chief Consultant in Medicine MTOUSA. Professor and Chairman Departments of Medicine Medical College of the State of New York. Promoted to Brigadier General USAR January 1954. (C.G. 818th Hospital Center) (World War I and World War II)

Harold C. Lueth, Evanston, Illinois. Born 1904. M.D. Northwestern University Medical School 1930. Liaison Officer between OTSG and AMA, W.W. II. Dean, Medical School of University of Nebraska. Clinical Professor of Medicine, University of Illinois. Promoted to Brigadier General USAR, August 1955. (C.G. 801st Hospital Center) (World War II)

Alexander Marble, Boston. Born 1902. M.D. Harvard Medical School 1927. Chief of Medical Service, Station Hospital Camp Edwards, Mass., and Harmon General Hospital. Medical Consultant, Sixth

and Eighth Service Commands. Assistant Clinical Professor of Medicine, Harvard Medical School. Promoted to Brigadier General USAR January 1954. (C.G. 804th Hospital Center) (World War II)

James B. Mason, Evanston, Illinois. Born 1898. M.D. University of Pennsylvania School of Medicine 1925. Assistant Professor Clinical Surgery, Womans Medical College of Pennsylvania. Staff, American College of Surgeons. Chief Operations Division OCS ETOUSA and Deputy Surgeon Advance Section COMZ ETOUSA. C.O. 805th Hospital Center USAR. Promoted to Brigadier General USAR, December 1954. Senior Consultant to The Surgeon General for Reserve Affairs. (World War I, World War II and Korean War)

Manfred U. Prescott, San Francisco. Born 1899. M.D. University of Illinois 1923. Surgeon Scott Field and Other Air Force Bases (U.S.). Consultant in Surgery to C.G. Sixth Army. Promoted to Brigadier General USAR, December 1954. (C.G. 820th Hospital Center) (World War I and World War II)

Harold G. Scheie, Philadelphia. Born 1909. M.D. University of Minnesota 1935. Professor of Ophthalmology, University of Pennsylvania. Chief EENT Section, 20th General Hospital CBI. Promoted to Brigadier General USAR January 1954. (C.G. 31st Hospital Center) (World War II)

Carl F. Steinhoff, Chicago. Born 1894. M.D. Northwestern University Medical School 1920. Associate in Medicine, Northwestern University Medical School. Chairman Medical Advisory Committee to Selective Service System of Illinois. Surgeon, Base D and Hq. 22nd Port, USAFFE. Promoted to Brigadier General USAR 1949, retired 1954. (C.G. 801st Hospital Center) (World War I and World War II)

Frank E. Wilson, Washington, D.C. Born 1909. M.D. University of Tennessee 1933. Executive Officer 807th Hospital Center, ETOUSA. Post surgeon and C.O. Station Hospital Fort Ogelthorpe, Georgia. Executive Vice-President, Joint Blood Council, Inc. Promoted to Brigadier General USAR January 1954. (C.G. 805th Hospital Center) (World War II)

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as professional consultants to the Surgeon General of the Army or to the Chief Surgeon, American Expeditionary Force. These physicians were honored with appointments in the grade of Brigadier General ORC in from three or four years following the Armistice of 11 November 1918, except in the cases of Drs. Finney and Thayer who had been promoted to Brigadier General rank in France during the war. The former was Chief Consultant in Surgery and the latter held a similar post in Medicine.

The second group served during World War II and included professional medical consultants in departmental and theatre level and one unit commander in an overseas theatre. These officers were promoted from Colonel to Brigadier General during the course of the war. It is of more than passing interest that the command promotion was the first instance on record in which an Army overseas hospital unit had been commanded by a general officer, a reservist. The unit was the 20th General Hospital, affiliated with the University of Pennsylvania which, from station in LEDO, Assam, served U.S. and Allied troops in a superb manner.

The third or post-World War II group is composed of general officers who have been promoted by reason of unit command or assignments within the Office The Surgeon General, as authorized in current Army Medical Service mobilization plans. These plans have included requirements for nine hospital centers in the Army Reserve program. These are the only Army Medical Service units currently organized which may be commanded by general officers. It is to be observed, however, that general hospitals of 2000 bed capacity and greater, not authorized for peace-time activation, provide flag grade for the commanding officer. In addition, there are presently two general officer Mobilization Designee positions included in the Reserve Augmentation Table for the Office The Surgeon General (OSTG), one for a Senior Consultant for Professional Medical Affairs and a second for the Senior Consultant for Reserve Affairs. The promotion of Brigadier General I. S. Ravdin to Major General to fill the former position is noteworthy and marks the first occasion in the

history of the American Army that a civilian doctor had been promoted to the grade of Major General in peace or war.

Chart II shows the allocation of the Reserve Generals by medical specialty.

The procedure for promotion to general in the reserve is deserving of brief comment at this juncture. Assignment to a TO & E general officer space, which requires Department of Army approval, does not automatically confer a promotion upon the incumbent. Several additional factors then enter into the promotion operation, which includes basic requirements for individuals imposed by the Reserve Officer Personnel Act (ROPA) 1954.[4] The Congress, has, in addition, established a current ceiling of 275,000 reserve commissioned officers in the Army reserve and the National Guard of the United States, of which number 207 spaces have been reserved for general officers, exclusive of the adjutants general of states. Within the unit and non-unit vacancies of the Army Reserve Troop List which contains general officer positions the Secretary of the Army, on the advice of Continental Army Commanders or appropriate Chiefs of Technical or Administrative Services, each year designates selected vacancies within the above statutory totals, for promotion purposes. Incumbents assigned to such spaces, providing they are recommended by proper authority and satisfy statutory requirements, may then be considered by Selection Boards at departmental level. Cases favorably acted upon by the Board are further processed in the Department of Army for nomination to the President and confirmation by the Senate.

CHART II

ANALYSIS BY MEDICAL SPECIALTY*

Specialty	*World War I*	*World War II*	*Post WWII and Korea*	*Total*
General Surgery	6	3	5	14
Obstetrics and Gynecology			1	1
Orthopedics	1			1
Ophthalmology	2		2	4
Otolaryngology	1			1
Internal Medicine	2	1	4	7
Psychiatry	1	1		2
Public Health	1		1	2
Pathology (Incl. Bacteriology and Laboratory)	1	1		2
Radiology			1	1
Total	15	6	14	30

* There are 35 grades held by 34 physicians. This apparent discrepancy occurs because one of the surgeons is listed as a Brigadier General in the World War II column and is listed as Major General in the Post World War II/Korea column.

The closing paragraphs deal with isolated desiderata which may be helpful in better understanding that category of military persons, the subject of this vignette.

As noted above, there is but one general officer list in the active Army. So it is within the Reserve Forces. Similar lists have been compiled from the incumbent general officers occupying unit and non-unit promotion vacancies.

For better or worse, and, perhaps as an obeisance to machine accounting systems, the facilitation of communication and the preparation of organizational tables, officer experience and competence has become bound to a system of numbers. Military Occupational Specialty (MOS) numbers are most helpful, if those in positions of authority recognize their limitations. The primary MOS for example of a general officer is 0002, be he the 4 star Chief of Staff or the most junior Brigadier of the Reserve. Professional training and experience is however reflected in the secondary MOS which is most needful when determining assignments. In recapitulation, there are then, no branch or primary MOS distinction between Major Generals

(formerly of the Engineer Corps), Lieutenant Generals (of origin—Infantry), or Brigadier Generals (prior service—Medical Corps). Therefore in effecting suitable assignment there must be a review of records and the consideration of the secondary MOS, which should indicate clearly the area or service and experience of the officer under consideration. By the same token, although by regulation medical officers do not command troops or units other than medical, those doctors who are general officers are officially no longer subject to this bar. With proper experience they could, in time of great stress, be placed in command of units other than medical, such as a Logistical Command or other suitable non-combat formation or position. Generally such would not occur and assignments could be anticipated within the confines of the Army Medical Service.

The next item of miscellany deals with the flags, pennants, and automobile plates of general officers assigned to the Army Medical Service. These are of maroon color instead of scarlet as in the case of other general officers. The change of branch color is of historic interest and occurred in 1901[5] when the Medical Department discarded green and adopted maroon for its color. At the same time the cross—the Corps insignia for many years—was replaced by the caduceus. DuBois[6] advised that maroon was adopted by the Medical Department because of its close similarity to the color of blood and because green seemed to have no relationship to medicine and is the traditional color of archers and riflemen. It is noteworthy that maroon is also symbolic of the Medical Services of the British, French and Italian armies. AR260-10, 8 February 1923, published while General John J. Pershing was Chief of Staff affirmed earlier regulations on this subject. These instructions have remained unchanged to date.

Army regulations prescribe the wearing of insignia of rank on the coat and shirt, but there are authorized exceptions which may interest "doctor generals." The "U.S." is the official device for wear on the coat collar of general officers, with the stars placed on either side of the collar, when the shirt is worn as the outer garment. Physicians, who are general officers may conform to this standard or the exceptions to be noted below. In some instances, as a courtesy, the caduceus may be worn appropriately on the coat or the left shirt collar and this modified custom is particularly desirable at medical installations. Routine instructions cover the wearing of coat and collar insignia in the Office of The Surgeon General, but in the absence of specific policy, the use or non-use of branch insignia is generally a matter of personal preference by the officer concerned.

Finally, the action taken by The Surgeon General of the Army in the Spring of 1954, when he directed the organization of an Advisory Council for Reserve Affairs to be composed of reserve general officers was significant and was tacit recognition of the importance of this segment of the Army Medical Service. This Council has met twice annually with The Surgeon General, since its founding. The Council has assisted in developing reserve policy and in the consideration and study of a variety of knotty problems pertinent to the Army Medical Service Reserve. The Chairman of the Council is currently Major General I. S. Ravdin, USAR. The Council has not been duplicated, so far as is known, by any other Army Technical or Administrative service or by The Surgeons General of the Navy or Air Force. Other members of the Council are Brigadier Generals Long, Lueth, Marble, Mason, Prescott, Scheie, and Wilson.

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[2] George M. Sternberg, A Biography. Martha L. Sternberg, 1920, pages 228-229. The American Medical Association, Chicago, Illinois.

[3] Personal Communication from The Surgeon General, which included selected data from Army Medical Bulletin No. 27, 1927, Edited by Brig. Gen. Albert G. Love USA Ret., then Lt. Col. MC.

[4] Reserve Officer Personnel Act of 1954. Bulletin Number 19, Department of the Army, 22 September 1954, Sections 307, 313, and 318.

[5] History of the Medical Department of the U. S. Army, Ashburn, P.M. Houghton-Mifflin Company 1929. Page 425.

[6] Personal Communication, A. E. DuBois, Heraldic Branch, Office QMG Department of the Army.

[7] Personal data has been secured from Who's Who in America and the files of the Association of Military Surgeons to supplement official data.

NOTE—Maj. General I. S. Ravdin, MC, USAR, was retired on October 31, 1956.

APPRECIATION

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ANIMALS

Our various animal friends are always obliging to serve as subjects of experiments and objects of biological studies. Occasionally, some of these studies take on a somewhat amusing character, and we may be amazed by the research results and the seeming disproportion between the object of observation and the observer. Among its many weird studies for the promotion of national security, our Navy had, for instance, one on the biology of fish, and it was found that the females of some fish are voiceless *(mirabile dictu!)* while the males get together and croak in great choruses as do the frogs. Another amazing "science news" came the "discovery" by the biological research bureau of a regional university that the 20 million American cats of the non-farm homes will get along better with their feeding if they are given a dose of petting and fondling as a form of extra vitamin at mealtime. Then, we heard of the Oxford physiologist who spent his time on studying the *"handedness"* of cats and discovered that 20% of our feline friends reach for their liver with the right paw, 38.3% with the left paw, while the rest are ambidextrous and do not care about what the book of cat etiquette prescribes for food fingering.

The Middle East—A Problem and a Challenge

By
AMOS R. KOONTZ, M.D.

THE importance of the Middle East in World politics is obvious to anyone who reads the daily papers. During the summer of 1955 I spent three months in Asia, including the Middle East. I lay no claim to being an authority on that great continent (although I had been there before) or of any part of it. Some firsthand impressions, however, might be interesting to those interested in medicine and geopolitics.

Preliminary reading.—Before going to Asia I read rather extensively literature which I thought might help a Westerner understand the East. Among the things I read were Harold Lamb's "Genghis Khan," "Tammerlane," "The March of the Barbarians," "Omar Khayyam," "Nur Mahal," "The Crusades" (two volumes), "Suleiman the Magnificant," "The March of Muscovy," "The City and the Tsar" (a Life of Peter the Great); Soloveytchick's "Potemkin" (one of Catherine the Great's principal ministers); Spengler's "The Decline of the West" (two volumes); Parkes' "End of an Exile" (about Israel); Penrose's "The Palestine Problem: Retrospect and Prospect"; Caldwell's "The Korea Story"; Lyon's "Just Half a World Away" (an account of the New India); and Halliburton's books of travel in Asia—"The Royal Road to Romance" and "Second Book of Marvels: The Orient." I also read such semi-historical novels as Margaret Landon's "Anna and the King of Siam" and Morris' "The Wise Bamboo," the latter being about Japan. Also Jhabvala's "Amrita"—a novel about India by an Indian. And finally Kawasaki's "The Japanese are Like That." Unquestionably this reading helped to give me something of the local flavor of the countries I was going to. I found that it all stood me in good stead and helped me to a far better understanding of the countries I visited than I could have otherwise gained in a short time.

TURKEY

In Istanbul I stayed at the brand new (opened only a few days before my arrival) Istanbul Hilton Hotel. This was a far cry from one's notion of the old Turkey. There was plenty of the old Turkey left however in the many beautiful mosques, the palaces and seraglios, the Sublime Porte, the Golden Horn, the Old City Wall, the Bosporus, the Sea of Marmora, and the Black Sea.

There are also many evidences that Istanbul was Roman, and then Christian, before it was Turkish. There are Roman aquaducts and columns. St. Sophia (now a museum) was first a Christian church and then a Muslim mosque. Many of the present mosques were first Christian churches. The hand and arm of John the Baptist is still preserved by the Muslims, as he was a Muslim prophet also. A huge underground cistern built by the Christian emperor, Justinian, has 336 large columns, which were brought from the Temple of Jupiter in Baalbek and from the Temple of Diana at Ephesus. There are also evidences of the late Byzantine, immediate pre-Turkish times. Constantinople fell to the Turks in 1453.

Turkey, as everyone knows, has become an almost completely Westernized country. One sees practically nothing of Eastern dress there nowadays. It is illegal for women to wear veils or for men to wear fezzes. When Kemal became President of Turkey, no one in Turkey had a surname. He took a surname for himself, becoming Kemal Ataturk, and required everyone else to take a surname. One may imagine the confusion that probably existed before that, when one went to look up one's friend Tom in the telephone book and found there were 10,000 Toms.

Kemal also abolished polygamy. (Whether that innovation is an advance or not depends upon the point of view.) He also introduced coeducation and civil marriages. He replaced

the Arabic alphabet with the Latin alphabet, which makes their stuff look like you can read it whether you can or not. He also introduced the metric system.

Lebanon

Lebanon is the smallest, and said to be the best, country in the Middle East. It would be hard to deny this after visiting the beautiful and thoroughly modern city of Beirut and crossing the verdant and fertile Boukaa Valley. It is the Biblical land of Canaan flowing with milk and honey—the "promised land" sought, but never attained, by the Israelites.

Beirut is a thoroughly modern city of almost a million population, with a very high standard of living. Dr. Wilson, the Professor of Surgery at American University, told me that Beirut was the best city to live in he knew of outside of the United States. The type of medical cases received in the local hospitals from the city of Beirut are about the same as those from any American city. Cases coming from outside the city, however, are very much like those seen in other parts of the Middle East, there being many cases of osteomyelitis, surgical tuberculosis and other conditions now seldom seen here. There is also a good deal of hydatid disease.

Approximately 80% of the cars I saw in Lebanon were American cars. (This was essentially true all through Asia.) I noticed that the inlet for the gasoline tank was inside the trunk. The cars were especially made that way in order to prevent people from stealing gasoline.

The Boukaa Valley, which one crosses on the way from Lebanon to Baalbek (65 miles), consists of verdant, fruitful, well cultivated land. Fruits and vegetables of all sorts are grown there. I saw whole fields of onions and potatoes. There were many vineyards. There were many fields of as fine wheat as I have seen any place. The land is irrigated. The wheat was being reaped by hand. I was told, however, that they do have some threshing machines from the United States.

Baalbek is on the east side of this fine valley. This was originally a Phoenician city. The Phoenicians built a temple to Baal (Sun God) in about 1,000 B.C., which was destroyed by the Greeks before the time of Alexander the Great. Both Alexander and the Romans called the city Heliopolis (City of the Sun). Nero started to build a series of temples in Baalbek in 57 A.D. They were continued by his successors. It took 100,000 slaves 250 years to build them. There were temples to Jupiter, Bacchus, Venus, Neptune, and Mercury. Constantine converted the Temple of Bacchus into the Bascilica of St. John the Baptist. The Arabs took over in 634 A.D. and converted the area into a mosque and fortress. They tore down the temples of Neptune and Mercury and used the materials for their own building purposes. The Byzantines had already taken some of the materials from the other three temples to Constantinople for building St. Sophia and the underground cisterns. Earthquakes also played their part in destruction, so now only ruins are left. However, the ruins are magnificent and excel anything I have seen in Greece or Rome. Only five of the huge Corinthian columns of the Temple of Jupiter are still standing, but this was the largest place of worship ever built anywhere in the world. The ruins of the Temple of Bacchus and of the Temple of Venus are in about the same state of preservation as the Pathenon in Athens. The population of Baalbek was said to be 400,000 in Roman times; it is now only 10,000.

There is no law with regard to dress in Lebanon. As a result one sees all sorts of of costumes there. European costume probably predominates. However, there are all sorts of Arabian costumes. There are Druses with white turbans and fezzes; Druse women with white head and neck pieces showing only the face. Some women wear veils covering the whole face with two holes for the eyes. Some have their faces completely uncovered; some have the face covered except for one eye. There is a gradual tendency to abandon veils completely. On the street, I

saw a pretty Arab girl, with very white skin, dressed in black. She had on a headdress but no veil and the front of her black dress was open in a narrow slit almost down to the waistline, her white skin showing through in marked contrast to her black dress. Now, I thought, I have seen everything! She was apparently self-conscious, however, because she held her arm across her front. Saudi Arabians wear a white head piece held on by one or two black circles. Some Muslims wear a yellow turban and fez meaning that they have made the pilgrimage to Mecca.

The American University in Beirut is, I think, one of the most remarkable institutions in Asia. It was founded by the Presbyterian Church in 1863. However, it is run as a non-sectarian university. There are religious services on Sunday only and these are voluntary. It is the largest American university outside of the United States. The professors are American and Lebanese. The Professor of Surgery, Dr. Wilson, is a Harvard graduate trained at the Massachusetts General Hospital. There are 40 nationalities and 25 religions represented. Complete freedom of opinion is allowed. There are all the departments of a university—liberal arts, law, medicine, dentistry, pharmacy, agriculture, engineering, etc. One of the Lebanese professors told me that the university had had a vast influence in the Middle East. Its graduates are Cabinet ministers and other high government officials of all the Middle Eastern countries. Some of them are Prime Ministers.

French influence is detectable both in Lebanon and Syria, especially in the hotels and restaurants. In the Bristol Hotel in Beirut, I saw a beautiful girl—half Arab, half French. Such mixtures are found all through Asia and Polynesia—half Chinese and half Caucasian, half Chinese and half Polynesian, half Polynesian and half Caucasian. The result is often striking. In New Caledonia during the war I knew a girl who was a mixture of Spanish, French, Polynesian, East Indian, and Jewish. Her French fiance practically had to keep her on a leash. In Fiji, I once saw a beautiful girl who was half Polynesian and half Caucasian. I mentioned her to one of the local wags. He said, "Oh yes! You know necessity is the mother of invention and the father of hälf-cästs."

Syria

In driving from Lebanon into Syria, we crossed the Anti-Lebanon Mountains, which are about 4,500 feet high. On the western slope is the Syrian border, where I had to stop at three different places to have my passport examined. However, I did not have to open my bags, and, in fact, did not anywhere all the way across Europe and the Middle East until I got to Baghdad. At the second customs stop, an Arab pushed ahead of the line and thrust his passport through the grating. I touched him on the shoulder and said, "Back there," pointing to the end of the line. I don't know whether he understood me or not but he immediately took his proper place. I think it was just ignorance because they are really very nice people.

We then went through quite a canyon in the mountains with huge cliffs on the sides. This reminded me of the Sierra country in California but on a much smaller scale. Approaching Damascus we drove along a small stream with green trees and plants all around us. Damascus is situated in a little oasis in the desert, as are a great many of the cities of the Middle East.

Damascus is a beautiful city with fine houses. The population is 500,000, elevation 750 ft. I stayed at the New Omayad Hotel, which is very luxurious *looking*. It is a very nice hotel, but like most hotels in the Middle East it is deficient in some particulars. For instance, as usual, there was no soap in the rooms—guests are supposed to furnish their own. The lighting was poor. There was no desk. No shower curtain and no place for one. No bath mat of any sort, but of course the inevitable douche stool. However, not the three bells for waiter, maid, and porter found in all European hotels. The bathtub had the frightful projecting spigots in the middle of

the tub, such as are found in many German hotels and which lacerate, macerate, and irritate one.

Damascus has many points of interest, one of the most interesting of which is the Omayad Mosque. This was built in 200 B.C. by the Romans as a Temple of Jupiter. It has the usual Corinthian columns. Constantine converted in into the church of St. John the Baptist. He built a tomb in it for the head of St. John, which he found somewhere —nobody knows where. (The body of John the Baptist is buried in Jerusalem.) When the Arabs took over, they made a mosque of the place but did not disturb the tomb of St. John, as he is also a Muslim prophet.

Another point of interest is the Tomb of Saladin. Another is The Street Called Straight, built by the Romans in the third century A.D. The whole street is now a bazaar and is covered throughout most of its course.

There is an 18th century caravanserai, which is a large round stone building. There is a huge bronze door at the entrance (for camels) and a small door in the large one for men. The small door is called "The Eye of the Needle" door. It is said that the biblical reference of the camel going through the eye of a needle refers to this.

Syria was under Turkish rule for a long time and the Sultan's palaces in Damascus are elaborate and interesting places. The quarters for the harem are naturally of especial interest to Western visitors. They contain smoking and lounging rooms, marble vats in which fruits were kept in cool water, swimming pools, and elaborate Turkish baths with rooms for bathing, massage, relaxing, etc.

A number of the Bedouin women have tattooed faces. Some have the entire chin tattooed in a wide rectangular block. This reminded me of the Maori tattooing in New Zealand. There were various designs depending on the tribe they belonged to. Some also had tattooing on their cheeks and forehead.

It was interesting to visit Ananias' house in Damascus. It is all underground now due to the level of the city having been raised by the debris left from the various destructions.

The City Wall was built in the first century A.D. by the Romans and is 15 meters thick. It contains rooms with people living in them. St. Paul's Gate is interesting to Christians. There is a window above the gate from which St. Paul was let down in a basket at night after the gate was closed so he could escape from the city.

Damascus is no longer famous for Damascus steel but for its beautiful brocades. Beautiful cabinets and furniture, with inlays of various kinds of wood and of mother of pearl, are also made there.

Jordan—The Holy Land

In flying from Beirut to Jerusalem, we crossed the dry barren Coastal Range. Then across a dry valley, with green in the central lowest portion, and desolate villages on the sides of it in the foothills of the mountains. Then across a second range of dry black mountains with a few green strips in deep gulleys or canyons. On the eastern side of this range, we saw Damascus situated in its oasis, surrounded by very bleak country. Then we crossed a rather dry plateau with many gulleys and hills. Finally we crossed over Jericho and the River Jordon. The river curved round and round and finally emptied into the Dead Sea just to our left. We then flew over the barren hills of Judea —very barren indeed. Nearing Jerusalem, we saw many rock fences including fields with nothing in them but more rocks. There were a few small flocks of sheep and goats. There were olive trees on some of the hills— a typical biblical flavor.

On the drive from the Kolundia Airport (very small) at Jerusalem to my hotel, we passed the small village of Ram on our left where the prophet Samuel was born. On a high hill to the right is his tomb with a monument put up by the Muslims. He was one of their prophets also. Nearing Jeru-

salem, the Mount of Olives was on our left and near the foot of the Mount, the Garden of Gethsemane.

All the old historical part of Jerusalem is in Jordan. The new part is in Israel. I could not get a visa to go to Israel because if I had, I would not have been allowed to enter any other Middle Eastern country, so strong is their feeling against the Jews. I had to choose between going to Israel and none of the other Middle Eastern countries, or the other countries and not Israel. Being interested in Jordan and the Middle East in general, and not in the new State of Israel, I chose the latter.

Jerusalem is full of beautiful mosques and beautiful churches. It is sacred to three religions—Judaism, Christianity, and Islam. But there is nothing very pretty about the way the Christian churches have been maintained in Jerusalem. After the separation of the eastern and western Churches, the fatal step was taken of buying directly from the Muslim governors rights in especially important shrines, which were actually in the possession of other Churches. This was possible because of the fact that while the *use* of the Churches was granted to the different Christian bodies, their *legal ownership* rested always with the Muslim power ruling in Jerusalem. The struggle between the Churches was ruthless. Lesser Churches were squeezed out once they ceased to have sufficient money to bribe the Muslim officials. Every weapon available was used, from bribery and political pressure to fraud, force, and murder. Contracts were always so carefully worded that the privileges sold to one side or another were never precisely defined, and the door was always left open for the other side, if it could arrange sufficient cash, to upset its rival.

The Mosque of Omar—"Dome of the Rock"—is built over the Rock of Abraham. The outside is beautifully tiled with blue predominating. Inside there are two rows of columns. The inner row (around the Rock) has French wrought iron between the columns, which was put there by the Crusaders, who used the mosque as a church. There are, of course, the usual black and white Arabian arches. There are also beautiful arches of Byzantine mosaic. The stained glass windows are lovely. So is the dome. In fact, the entire effect is one of the most striking I have ever seen. The huge Rock of Abraham is a rough unadorned stone, although when the Christians had it they put an altar on it. It is the Rock from which Muhammed ascended into heaven. When he went up, the Rock is supposed to have gone with him halfway, until the Angel Gabriel stopped it and sent it back to earth. To the Muslims it is still supposed to be suspended between heaven and earth. In the roof of the mosque there is a hole through which the Israelites fired a shell in 1948. Fortunately the shell was a dud and made only a hole in the carpet on the floor. Neither the hole in the roof nor in the carpet has been repaired, so everyone can see what the Jews did.

I walked along the Via Dolorosa, which is the road which Christ took in carrying his cross to Calvary.

The large Church of the Holy Sepulchre, or Church of the Resurrection, is of interest to all Christians, and covers the supposed places of Crucifixion and Burial. It is owned by the Greek Orthodox Church, but other Christian churches (Roman Catholic, Armenian and Syrian) are allowed to have chapels there. It was first built by Queen Helena and her son, Constantine, in 336 A.D. The Persians destroyed it in 614 A.D. It was rebuilt in the 7th century, burned in the 8th century, and then rebuilt by the Crusaders. Just in front of the church there is a marble slab marking the tomb of an English knight who died during a crusade. Just inside is the Stone of Anointment, on which the body of Jesus was supposed to have been anointed before burial. From this a flight of steps leads up to Calvary (Golgotha—place of skulls—Greek). The place where Jesus was nailed to the cross is in the Roman Catholic chapel. The actual place

where the cross was erected is in a Greek Orthodox chapel. Just below the place of the cross, there is a cleft in the rocks, supposed to have been caused by an earthquake at the time of the crucifixion. Between the Greek and Roman chapels is the place where the Virgin Mary received her son in her arms when he was taken down from the cross. The Tomb of Jesus is under the center of the rotunda of the church. Joseph of Arimathaea furnished the tomb (cut out of rock), which had been prepared for himself. The original tomb is covered with a slab of marble to keep Christians from taking pieces of it away and thus desecrating one of their own shrines.

It is a little disconcerting to realize that no one knows the exact location of the holy places just described. Constantine built his shrines over what he believed to be the sites of the Crucifixion and the Resurrection. When he arrived in Jerusalem, the exact sites were unknown. How did he get his information? It is unlikely that he found any evidence which was unknown to the then bishop and Christians of the city.

Also not far away, but outside of the city wall, there is the rival Garden Tomb, which was discovered by General "Chinese" Gordon in 1883. Some believe that the hill over it is Calvary (Golgotha—Place of a Skull), because a part of the cliff looks like a skull. I couldn't use my imagination enough to see it. There are arguments to substantiate both contentions as to the exact sites of the holy places, but no one really knows.

I drove from Jerusalem to Jericho (25 miles) with a guide and chauffeur. We drove through the Valley of Jehosaphat, just outside the city wall at the foot of the Mount of Olives. (The present city wall is the fifth the city has had. This one was built by Suleiman the Magnificent in 1542.) We saw the old Roman road coming down from the Mount of Olives, along which Jesus traveled on Palm Sunday before his triumphal entry into Jerusalem. Then passed Bethpage, to which Jesus sent two of his disciples on Palm Sunday to get an ass. Then through Bethany, the small village in which Jesus was when he sent the disciples on the mission for the ass. All of these places are very close together. We stopped at the Church of Lazarus, which is on the site of the home of Mary, Martha and Lazarus. This was originally built by the Byzantines and then by the Crusaders. It was restored three years ago. The legendary tomb of Lazarus is close by—just a hole in the ground.

We passed the site of the house of Simon the Leper, where Jesus once ate.

Saw parts of the Old Roman road to Jericho (now no longer used) at various places all afternoon.

Passed the site where the Good Samaritan found the man left by the robbers, and a little further on the site of the inn to which the Good Samaritan took him.

The whole country is very desolate and barren. We passed a clump of trees planted by the British during their mandate. The whole country could be made to flower with some water and proper soil conservation. I asked the guide why they did not irrigate. He said it was too expensive. I said they had better spend the money. He said, "Do you mean Point IV?" They seem to be always looking for outside help. I wonder if it ever occurred to them that the Lord helps those who help themselves.

We passed on into the wilderness of Judea—just barren hills. Saw the ruins of a Crusader's castle, high on a hill to the left.

We passed a sign showing that we were just at sea level. We were going down below sea level from now on. We entered the Plains of the Jordan with the mountains of Moab across them not far away. Saw Mount Nebo in this range, from which Moses viewed the Promised Land. (Apparently both Jordan and Lebanon are in the Promised Land.) Moses died before getting into it however. His successor, Joshua led the Israelites into it.

I noted an effect on my ears from the low altitude. We had come from 2,500 ft. above sea level to 1,300 ft. below. On our left, among the hills of Judea, we saw the Mount

of Temptation, where Satan tempted Jesus, after a 40-day fast, to turn the rocks into bread.

We then came to the modern town of Jericho—5,000 population. This is a winter resort for Jerusalem, which gets cold because of its elevation, while Jericho stays warm. Because of its warmth, the vegetation is very different. There were mangoes, papayas, bananas, jasmine bushes with white flowers and twisted trunks, henna bushes (from which red dye comes), bougainvillea, date palms, orange trees, etc.

After passing through Jericho, we came to the Plain of Gilgal, where the Israelites camped after leaving Egypt and after Moses' death.

We then arrived at the Jordan River—not over 25 feet wide. It rises in Mount Hermon (next to the highest mountain in Lebanon), Huleh Lake, and the Sea of Galilee, and then flows on into the Dead Sea. It is 122 miles long. We were at the place where Jesus was baptized by John the Baptist. Also at the place where Elijah struck the water with his mantle and caused it to separate so he could cross, just before he was translated to heaven in a chariot of fire. I couldn't see why he had troubled himself, as he could easily have waded across.

Retracing our steps, we drove back through modern Jericho, and then turned off to the right a short distance to Old Testament Jericho, which is being excavated by the American School of Oriental Research of Jerusalem. Joshua sent spies into the town, a woman hid them, and then Joshua captured and destroyed it. An earthquake did the rest. The excavation shows the foundations and ground floor plans of several houses—apparently very mean affairs.

Across the road from the excavation is Elisha's Spring, with a stream of water a couple of feet wide issuing from it. Refugee women from the Arab refugee camp about a mile away were filling large earthenware jugs there. They were also washing clothes. All were barefooted. They carry the jugs on their heads, lying on their side when empty, and, of course, upright when full (the days of miracles are over). They use a small round pad on the head for the jug to rest on.

The New Testament Jericho has been lost. It was by the Dead Sea, but its exact site has not been found.

We then went to the banks of the Dead Sea, which is 1,300 feet below sea level. It is 27% salt, the ocean being only 5%, so of course no one sinks in it. It is 50 miles long, 9 miles wide, and 1,200 feet deep. Two Americans were swimming in the sea, lying comfortably on their backs without effort. The water is very clear, looks like ordinary water. I put my hand in it. When the water dried, my hand was very sticky. I had no desire to swim in it, having swum in the Great Salt Lake, and the swimming here is apparently no different.

While in Jerusalem, I also drove to Bethlehem. Bethlehem is only 5 miles from Jerusalem by the old road, but part of the old road goes through Israel and therefore cannot be traveled. Jordan has built a new circuitous road, which is 10 miles long. We passed many caves with people living in them. They also keep their flocks of sheep and goats in the caves. They get water from cisterns, which are filled during the rainy season. The rainy season is often very poor and therefore water is generally very scarce.

We saw part of the Jewish new city of Jerusalem from the road. On our right (to the west) we saw trenches and barbed wire put up by the Arab Legion to defend their country from the Jews, who are just beyond. There is a No Man's Land between Jordan and Israel and it means death to a citizen of either country to try to cross this No Man's Land.

Nearing Bethlehem, we saw the shepherds field on our left, where the angels appeared to the shepherds announcing the birth of Christ.

We passed Rachel's Tomb, put up in 1857 on the spot where Rachel, wife of Jacob, is supposed to have died after a difficult labor at the birth of Benjamin. Just beyond this, the road to Hebron branches off to the right.

Hebron is not many miles from this spot. It was the city of Abraham. David ruled there for 7½ years. Then he marched on Jerusalem, took it from the Jebusites, and ruled there for 34 years.

We then passed on our left the field of Boaz and Ruth. Ruth was a pretty Moabite widow whom Boaz found gleaning in this field. He fell in love with her and married her. In the distance to the east, among the hills of Judea, is seen the flat-topped Mount Herodium, named for Herod the Great, who had a castle there.

In Bethlehem we went directly to the Church of the Nativity. It is surrounded by Greek Orthodox, Armenian, and Roman Catholic monasteries, all comparatively recent, the oldest dating from the 16th century. The church itself was first built in 330 A.D. by Constantine and his mother, Queen Helena. The Samaritans revolted and destroyed it in 528. It was rebuilt by Justinian in 536 and has withstood many vicissitudes since then. The entrance, which was originally very large, was reduced in size in the 14th century to a very small one, only large enough to admit a man if he stoops over. This was done in order to be able to resist attack more successfully. Inside, the church is impressive with a double row of columns on each side. Mosaics around the walls were added by the Byzantine emperor, Immanuel Comnenus in 1141 and 1187. The Holy Grotto of the Nativity is under the altar. The place of birth is market by a silver star given by the Roman Catholics. (The church is Greek Orthodox.) The site of the manger, in which Mary placed Jesus just after he was born, is just a few steps away. There is a new and modern manger there now.

After visiting the Holy Land, I could well understand Mark Twain's caustic remarks about it in his "Innocents Abroad." The whole area is desolate. If there is a decent residence in Jerusalem (the Jordan part), it escaped my notice. The people live in solid walls of row houses (not just separate houses built immediately next to each other) in small dwellings, which look like holes in the wall. Although there is more vegetation between Bethlehem and Jerusalem than I saw in the rest of Jordan, when in Bethlehem I could not help thinking of the British soldier who was stationed there during World War I, and who wrote home: "Here I am in Bethlehem where Christ was born and I wish to Christ I was in Nottingham where I was born."

The ordinary methods of living are apparently just as primitive as they were in biblical days. I saw men threshing wheat by drawing a flat board structure over the wheat with horses on a flat floor.

Iraq

In flying from Beirut to Baghdad, after crossing the Coastal Range, the Anti-Lebanon Mountains, and Syrian Mountains, we flew over flat barren desert for two hours. At Baghdad, I stayed at the Tigris Palace Hotel, which is old and dilapidated. The only resemblance it bears to its name is the fact that it *is* located on the Tigris River. While Baghdad is a very interesting place historically and medically, I believe it is the dirtiest city I have ever been in except Cairo. Also the food was the worst I have encountered except in Cairo.

The Golden Mosque, built 500 years ago, has two domes and four minarets, all covered with gold leaf. It contains the tombs of two important Muslim holy men and for this reason no non-Muslims are allowed to go inside to profane the sanctorium. The mosque is huge and covered with beautiful blue and white mosaics.

The bazaars are typical of the bazaars encountered every place in the Middle East (the best I saw were in Istanbul), except that most of them in Baghdad are indescribably dirty and crowded. My guide couldn't understand why I didn't want to hang around them, as most Americans like to do so and have their pictures taken. There were many barefooted women with heavy golden anklets around each ankle.

As in most Middle Eastern hotels, there was no barber shop in my hotel, so I went to

a nearby barber shop to get a haircut. I was surprised to find it a nice clean place. The barber spoke English very well and told me that he had a nephew who is a doctor in Chicago and an American citizen.

I drove from Baghdad to Babylon—60 miles away. There is nothing left of the city except the excavated foundations of ruins. There is the foundation of the old palace which much antedated Nebuchadnezzar's palace. We saw also the foundation of the Ishtar Gate with the Temple nearby. The walls of the Temple have patterns of horses on them fashioned out of the mud bricks, which were then used for building, there being no stone in the country. These things date to 3,000 B.C. I also saw the foundations of the main palace which Nebuchadnezzar used. The paving of the Sacred Way, used for coronations, is still intact. There is also the black stone statue of a lion crouching over a man, from the days of old Babylon. The stone was brought from Aswan in Egypt. Saw all of the little that is left of the Hanging Gardens. The water for the Gardens was brought by a canal from the Euphrates. The site of the Tower of Babel is in the near distance by the Euphrates River.

I then drove to the nearby city of Hilla, where there is a replica of the Hanging Gardens. However, they are not up to Richard Halliburton's pictures. In walking through the dirty dusty streets, one had to be careful not to step in donkey or sheep dung. The women in bazaars were sitting on the dirty ground in their black clothes. There were a lot of beggars and always people asking for baksheesh. A great many women had huge golden ornaments piercing the ala of each nostril. These were very ugly and in distinct contrast to the delicate golden ornaments often worn in the nostrils by Indian women.

In Baghdad I went to the Royal Hospital and saw some of their work. The operation most frequently done in Baghdad is the operation for kidney stones, many of which are of the large staghorn variety. This, of course, is due to the dehydration caused by the very hot dry climate. One day in Baghdad I inquired what the temperature was and found it was 108°. However, it was so dry that it did not seem as hot as 90° seems in Baltimore. Most of the fluids ingested escape imperceptibly through the skin without very much noticeable sweating. One is constantly reminded of the dehydration by the dark color of the urine.

In the Royal Hospital I ran across several surgeons trained in this country. One, Dr. Omari, was trained at the Franklin Square Hospital in Baltimore. He is a plastic surgeon and showed me a number of his plastic cases, especially those of the nose. He has a lot of noses to fix up because it seems that if a husband in Baghdad suspects that his wife has been unfaithful, whether his suspicion is based on fact or fancy, he simply cuts off her nose right even with her face. Dr. Omari builds new noses for them, and is doing beautiful work. Baghdad boil (a form of leishmaniasis) is another cause for plastic surgery of the nose. Rodent ulcer is still another cause.

Bilharzia with bladder complications is very common. There is a lot of cancer of the breast, which is not often seen until the late stages.

Iran

In the 2½ hour flight from Baghdad to Tehran, we flew over practically nothing but desert. We passed over and between huge mountains which were completely bare. One on our left had snow on it. It was 14,500 ft. high. Tehran, like most Middle Eastern cities, is situated in a small oasis in the desert. At Tehran I stayed in the new and lovely Park Hotel, which is in a beautiful setting with lovely pines and sycamores all around it. My room was large and sumptuous in appearance with lovely furniture and beautiful Persian rugs on the floor. However, the lighting was poor. The bathroom was beautifully tiled and complete with shower curtains, but with no bath mat. Such things I suppose come gradually. The food

was excellent and served in a nice atmosphere—so different from Baghdad.

The hotel manager secured an invitation for me to visit Shah Abdul Azim, the name of the area devoted to the burial place of kings. My invitation was for 1800 sharp. A sentry presented arms as I entered, and I returned his salute in military fashion, although I was in civilian clothes. There is a beautiful 800 year old mosque with one golden dome and one blue dome and two minarets. There are beautiful mosaics on the outside. No non-Muslim is allowed to enter because a holy man is buried there. The major domo of the place, Mr. Eshghi, took me into the reception room of the king's tomb and served Turkish coffee and then excellent tea. He also showed me a snapshot book containing many pictures of himself taken with various foreign notables, including Vice-President and Mrs. Nixon. The tomb itself is exceedingly beautiful and made of various colored marbles, all from Iran. The window panes are not of glass but are of thinly cut yellow marble, which is translucent but not transparent. The Persian rugs were the most beautiful I had ever seen.

On the way back to the hotel, we (my guide and I) drove through a poor district—rows of low mud houses joined together and people sitting on the ground outside. There were people washing themselves and their clothes in the muddy water of the gutter.

There were fewer Arab costumes in Tehran than in other cities of the Middle East I visited. When worn, there is less black, but more gaily colored costumes, which are very becoming.

I paid a visit to the lovely Darband Hotel about 10 or 12 miles from Tehran. This is situated at the foot of a beautiful green mountain valley. There is snow on top of the mountains, which furnishes the moisture for the lush vegetation. There are many lovely homes up the valley from the hotel. It might better be termed a mountain hollow than a valley. It is, naturally, a great summer resort area. The hotel has a lovely swimming pool with dining tables on a terrace surrounding it.

I visited the Pahlavi Hospital in Tehran, which is named for the present king. There were very few English speaking doctors, and only one operation going on. I was told that they do very little operating in the summer time. I found one surgeon, however, who had been trained in New York and who knew two of the Iranian doctors who were then training in the Baltimore City Hospitals.

In flying from Tehran to Karachi, we again flew over almost endless desert. We stopped at Isfahan, which is in an oasis, and there saw the Royal Mosque with its blue-green dome, which Richard Halliburton says is the most beautiful mosque in the Orient. We made several stops on the way from Tehran to Karachi and at each place the runways were of gravel, except one, where there was a concrete runway. A fellow passenger, a Swede, who was attached to the Swedish Embassy in Karachi, grinned and asked me if we had built it. I thought "What suckers we have been!" and I think that he thought so too. We made a stop just before reaching the border of Pakistan in order to go through the customs. Our baggage was taken off the plane and inspected but not opened. There were no airport buildings but simply two tents. Our passports were examined by three separate incompetents, who pushed them back and forth across a table to each other and wrote something on them in Arabic. If their thoughts were as dark as mine, what they wrote was not good. This procedure consumed an hour of time and there were only three of us to go through the customs. I had to have an exit visa in order to leave Iran, and the accommodating clerk at the Park Hotel had gotten this for me. I don't know what would have happened to me if I hadn't had it. They would probably have made a desert Arab out of me.

Air Travel in the Middle East

While in the Middle East I traveled by

Middle East Airlines, Air Liban, Iraqi Airways, and the Iranian Airways. The airplanes were all American DC-3s, except on one flight in which he had an English Vickers Viking. The pilots were Middle Eastern pilots in all instances except one, where the pilot was an American. As a rule the crews were all male. In the few instances in which there were stewardesses, they were solemn, unsmiling, and uncommunicative. One hostess, an Arab, was potbellied and broad in the beam, but she did have a smile occasionally. The food was poor. The seats were far from the type used in American planes or European planes and were jammed so closely together as to make the passengers uncomfortably cramped. There were no pockets on the backs of the seats for the passengers in the seat behind, as is true in American and European planes. There were no headcloths on the backs of the seats. The mechanism for moving the seats backwards was very cumbersome and often did not work at all. Due to the crowding of the seats, many of them were not opposite windows.

The International Airport at Beirut is new and commodious and was by far the best one I saw in the Middle East. The one at Jerusalem was little more than a 2-room shack. Most of the others were nondescript, but the worst of all was the one at Zahidan (where I went through the customs just before leaving Irán), which consisted of only two small tents. In no place were there any boarding cards or passes. The passenger has to get information the best way he can and everyone who does anything for one asks for a tip. On one occasion in Beirut when I was about to board a plane with eighteen other passengers, the hostess in charge kept herding her flock together and counting them, and, of course, someone was always straying off. There was no orderly process.

The Refugee Problem

All across Asia one cannot help being struck with the millions of refugees who have been run out of their own countries and who are now living in countries not their homelands, and generally under the most miserable conditions. In Lebanon I saw thousands of Armenians in a refugee camp, who had been run out of their country by the Russians. There are hundreds of thousands of Arab refugees from Israel scattered throughout the Middle East. Pakistan is full of Muslim refugees from India. India is full of Hindu refugees from Pakistan. Hong Kong is full of refugees from Red China, and South Korea is full of refugees from North Korea.

All of these refugees live under miserable conditions with practically no living facilities, except sometimes just a tent flap, sometimes small tents, and often miserable improvised wooden shacks. Sanitary facilities are often non-existent. Their possessions consist of maybe a little bedding and a few cooking utensils. In Hong Kong, where the sidewalks are rather broad, the refugees live under lean-to's on the sidewalk. They have half the sidewalk as their home with a little lean-to to protect them. There the city has built latrines in the middle of the street for their use, but in most of the places the refugees have no latrines at all. They simply use the desert, the bush, or anything they can get to.

In the Middle East there are more than 900,000 Arab refugees from Israel. Opinions differ as to how and why they left Israel. The Arabs I talked with said that they were run out by the Jews and that all of their possessions, including their bank accounts, were confiscated. One Arab, who lived in the Jordan part of Jerusalem, told me that he could look over into the Israeli portion every day and see people coming and going from his own house, but of course he could not go there. One thing is sure, and that is that they are all very bitter. When hostilities started, the Arabs in Israel outnumbered the Jews two to one (1,300,000 to 600,000). The Arabs state that the Jews were well prepared for the war and that the Arabs were unsuspecting and unprepared. Dr. Parkes (a

Church of England clergyman with very pro-Jewish views) states that while some of the Arabs left Israel either because their homes were destroyed by the war or because they were in direct line of an advancing army, and some left because of the Dier Yassin Massacre, a great many of them left because they thought the Arabs would defeat the Jews in the war and they would be able to go back to their homes later. Dr. Parkes tends to minimize the importance of the Dier Yassin Massacre, saying that it was the act of terrorists, which was shocking to the majority of Jews in the country. Dr. Penrose (President of the American University in Beirut) claims that the Zionists made excellent use of the terrorist tactics, which they had learned only too well from their former Nazi taskmasters. He states that "There is no question but that the frightful massacres such as that which took place at Dier Yassin in April, 1948, were perpetrated for the major purpose of frightening the Arab population and causing them to take flight." He also states that the Zionist radio repeated incessantly for the benefit of Arab listeners "Remember Dier Yassin." He feels that this is the main reason for the hasty exodus of the thousands of Arab families from Israel, leaving practically all their possessions behind. As in all such instances, the exact truth is difficult to arrive at. However, anyone seeing the Arab refugee camps and the miserable conditions under which they live, is bound to realize that they must have had some good reason for leaving their homes and their possessions.

The Lesson for Us

While in the Middle East, I talked with all the people I could, especially Arabs, in order to try to get their point of view. A great many people in this country think of Arabs as roving Bedouins of little importance. This is far from the case. Anyone who thinks of the high degree of Arabian culture in the Middle Ages must disabuse his mind of this notion. Some of the greatest physicians of history, Avicenna for example, were Arabians. The present day Arab is highly intelligent and many of them are highly educated and cultured. I found many of them to be charming. They told me that when the State of Israel was first founded, they hated the United States because they felt that the United States, backed by England, was responsible for the establishment of that State, in which there was a Jewish minority, and for the Arab majority losing their homes and their possessions. They said further, however, that they soon learned that Harry Truman, for political purposes, was responsible for the action and not the American people. They, therefore, transferred their hate from our whole people to one of our citizens, now an ex-President. So far as I could make out, they have a great admiration for the American people but are highly distrustful of our government.

I cannot forebear the observation that I do not blame them for being distrustful of our government. In my humble opinion, we have sacrificed the right for political expediency, and also, in my humble opinion, that is a reprehensible action.

What do the people of Asia think about our attitude towards Communism, which of course we abhor, but how can they think that our horror of Communism is sincere when they see our highest officials hobnobbing, laughing, and drinking vodka with the assassins of the Kremlin? What do the people of the enslaved Soviet satellite countries think when they see us in most friendly poses with the same people who killed our boys in Korea? It naturally strengthens the hold of their masters on them, because how can they feel that we are to be trusted in resisting their oppression when we are on such friendly terms with their oppressors? Someone recently said, "It is a strange sight to see our present leaders march domestic Communists to prison and invite their foreign bosses to dinner."

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Resuscitation of Dogs Poisoned by Inhalation of the Nerve Gas GB*

By

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THE problem of resuscitation following nerve gas poisoning is of importance to military and civilian defense personnel. Very little information is available in the open literature integrating the various factors responsible for effective resuscitation after nerve gas poisoning.[1,2,3,4,5] However, a number of papers have been published concerning treatment of humans following exposure to various anticholinesterase insecticides closely related to nerve gases.[6,7,8,9] After exposure to lethal concentrations of nerve gases there is a critical time after which resuscitation is impossible. The experiments reported here were designed to evaluate the factors responsible for this critical time and to select the ideal resuscitation procedure.

The nerve gases inactivate the enzyme cholinesterase, which results in an accumulation of acetylcholine. The physiological consequences are similar to those of acetylcholine toxicity or exaggerated discharge of the autonomic nervous system, and death results from respiratory and circulatory failure. Atropine acts by combating the parasympathetic effects of the nerve gas and hence is a specific antagonist. Atropine must, however, be transported from the site of injection to the heart and nervous system in sufficient amounts for effective resuscitation. It is known that the heart rate and arterial blood pressure fall soon after poisoning with lethal doses and, therefore, failure of peripheral circulation at the site of injection limits the absorption of atropine. The time relationship between the injection and the failure of the circulation is of prime importance in determining the effectiveness of atropine. Atropine injected into a muscle which is no longer perfused with blood is obviously useless.

Animals exposed to low dosages (125 mg. min./m.^{3}) may be resuscitated with atropine alone. Artificial respiration without atropine is also effective under these circumstances. For the higher exposures (185 mg. min./m.^{3} and above), with complete arrest of breathing, the combination of artificial respiration and atropine is necessary.

In these experiments the nerve gas (GB vapor) was administered to dogs by inhalation. The dosage obviously depended not only upon the chamber concentration, but also upon the animal's respiratory minute volume during exposure. The later factor varied widely with the individual animal's reactions to the experimental procedure. The dose cannot, therefore, be as accurately controlled as in experiments in which the agent is administered by injection; however, field conditions are more closely simulated by the inhalation method of exposure.

METHODS

Mongrel dogs weighing 5 to 16 kg. were used in these tests. An attempt was made to control their physical condition by not accepting dogs with rectal temperature above 102°F. No food was allowed on the morning of the experiment.

Technical difficulties made it impossible to measure all physiological functions in each experiment, and it is to be understood that all the methods described were not applied to each animal. The respiratory pattern was

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* GB is a nerve gas whose chemical name is isopropylmethylphosphonofluoridate.

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obtained using a dog mask fitted with a pneumotachometer for continuous recording of respiration.[10] This equipment did not seem to interfere with the gassing process. A continuous recording of the arterial blood pressure was obtained through a polyethylene catheter inserted into the femoral artery under local anesthesia. Pressures were measured with a Statham pressure transducer, Model P23A, and recorded on a Sanborn Poly-Viso recorder. Electrocardiographic (EKG) records were obtained before and as soon as possible after exposure.

Exposure of the animal to GB vapor* in a gassing chamber was accomplished by pushing the head through a round hole in a rubber sheet stretched over a 10 inches square opening in the chamber. This opening was closed with a trap door between exposures. The animal was held in this opening for the 60-second period of exposure.

In these experiments a 5 mg./kg. dose of atropine was injected intramuscularly at approximately the same time that artificial respiration was initiated. The atropine was injected into the lateral aspect of the thigh and the area was massaged vigorously for one minute. Early experiments in this study were carried out at Ct's† of 500 to 4800 mg. min./m.^{3} using an endotracheal tube method of artificial respiration. Later it was realized that the endotracheal tube method was not practical, and the mask-to-mask method of insufflation [12,13] was employed.

When the endotracheal tube method was used, a stiff 8 mm. plastic tube was passed through the mouth into the trachea. This tube was attached to a T-tube, one arm of which was connected to a rubber balloon, and the other to a source of oxygen or air. The flow of oxygen or air was regulated by means of a pressure-reducing value. By intermittent manual pressure on the balloon, 300 to 600 ml. of gas was forced into the animal's lungs 12 to 20 times per minute. The pressure exerted varied from 15 to 24 mm. of water. Manual pressure was applied to the chest wall during the expiratory phase.

Mask-to-mask insufflation was accomplished with apparatus similar to that originally described by Johns and Cooper[12] and later modified by Cooper,[13] A dog mask was constructed out of a cylindrical metal can, 3¼ inches in diameter and 5¼ inches long. A thin rubber sheet having a one-inch hole in the center covered one end into which the dog's muzzle fitted snugly (Fig. 1). The opposite end was adapted to a valve and system of tubing connected to the operator's gas mask.

Experience showed that if cardiac and respiratory function responded to treatment, the response would occur within 5 to 10 minutes. Consequently, if no evidence of recovery was noted at the end of 15 minutes, resuscitation procedures were discontinued. Animals which responded sometimes required artificial respiration intermittently for 30 minutes or more before spontaneous respiration was considered adequate.

Results

A dog was considered resuscitated if circulation and spontaneous respiration became adequate and persisted for five or more minutes. Occasionally dogs which were satisfactorily resuscitated died during the two days following exposure. In some animals special measures were employed to prevent these late fatalities. Some dogs were placed in an oxygen tent for one or two hours after resuscitation. A few of these received, in addition, supportive treatment of 300,000 to 600,000 units of penicillin and one gram of streptomycin, intramuscularly.

There were considerable variations from animal to animal, particularly with time of onset of the various toxic signs; the median times for events occurring during and after typical exposures are outlined in Table I. The pattern of toxic signs was essentially the same at Ct's ranging between 125 and 4800 mg. min./m.^{3}, although the signs appeared

* GB vapor was dispersed in an 0.4 m.^{3} gassing chamber, and its concentration was determined by a modified peroxide-o-dianisidine method (11).

† "Ct" is an expression defining degree of exposure; it is the product of concentration in mg./m.^{3} and time in minutes.

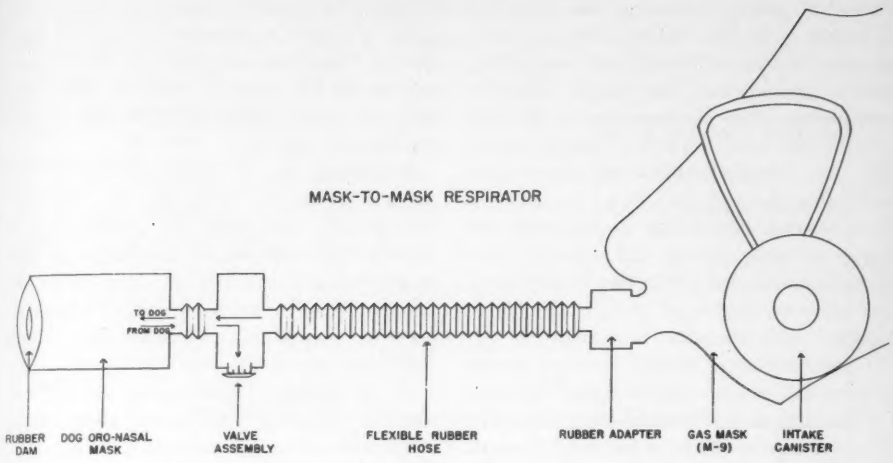

FIG. 1.

TABLE I. TIME SEQUENCE OF ONSET OF TOXIC SIGNS DURING AND FOLLOWING TYPICAL ONE-MINUTE EXPOSURES

Median Time After Beginning of Exposure (minutes)	Ct = 1000 to 4800 mg. min./m.³	Ct = 250 mg. min./m.³	Ct = 185 mg. min./m.³	Ct = 125 mg. min./m.³
1/4				
1/2	Hyperventilation			
3/4	Salivation	Hyperventilation	Hyperventilation	Hyperventilation
1	Collapse Convulsion Eye Reflex Gone Apnea			
		Salivation Collapse		
2			Salivation Collapse	
		Convulsions		Salivation
		Eye Reflex Gone	Convulsions	
3			Eye Reflex Gone	Collapse
		Apnea		
4			Apnea	Convulsions Eye Reflex Gone
5				Apnea

somewhat earlier following the exposure to higher Ct's. The animals became unresponsive to external stimuli, such as touching eyelids, pinching toes, and sound, within the first minute after an exposure to the high Ct's. At the lower Ct's; i.e., approximately 185 mg. min./m.^{3}, this unresponsiveness was often delayed for three minutes. In those animals responding to treatment, reaction to these stimuli and apparent consciousness returned within one to three minutes after restoration of effective circulation together with adequate ventilation.

Hyperventilation usually occurred during gassing and at low concentrations continued for as long as one minute after exposure. The respiratory effects of inhaled GB vapor are airway obstruction from bronchial secretions and bronchial constriction. Contraction of the thoracic musculature might also have contributed to ventilatory inefficiency by decreasing compliance of the chest. The volume of respired air progressively decreased and, in the absence of therapy, apnea and death ultimately resulted (Fig. 2). At Ct's of 185 mg. min./m.^{3} respiration appeared to be adequate for several minutes after exposure (Fig. 2). At Ct exposure above 185 mg. min./m.^{3} this time was progressively shorter, and in the Ct range of 4000 to 4800 mg. min./m.^{3} apnea occurred at the end of the one-minute exposure.

Frequently rhonchi could be heard in the upper respiratory tract during the resuscitation period, indicating the presence of a considerable amount of discharge in the larger bronchi and trachea. The lungs on autopsy in a few animals revealed the presence of foamy, mucoid secretions, which definitely interfered with ventilation.

In the higher Ct group after the restoration of effective circulation, spontaneous respiration often did not return for 20 to 60 minutes. In the lower Ct group it usually returned within 5 to 15 minutes. In some animals in the lowest Ct group (125 mg. min./m.^{3}) spontaneous respiration never ceased, although it was depressed.

Several physiological events during and following exposure are detailed in Figures 2, 3, and 4. It is again worthy of note that there was no great difference in the pattern

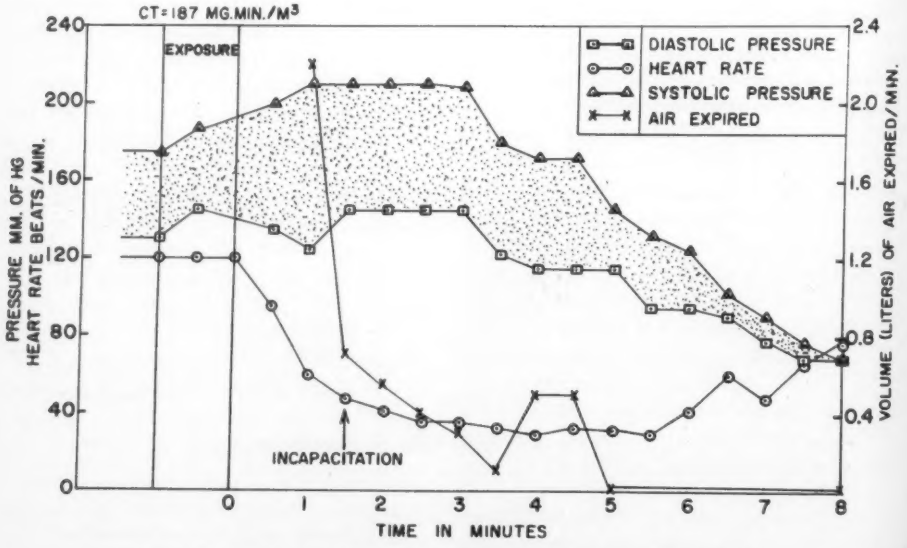

FIG. 2. Changes in Heart Rate, Blood Pressure and Amount of Expired Air Following Exposure to GB Vapor. Treatment: None.

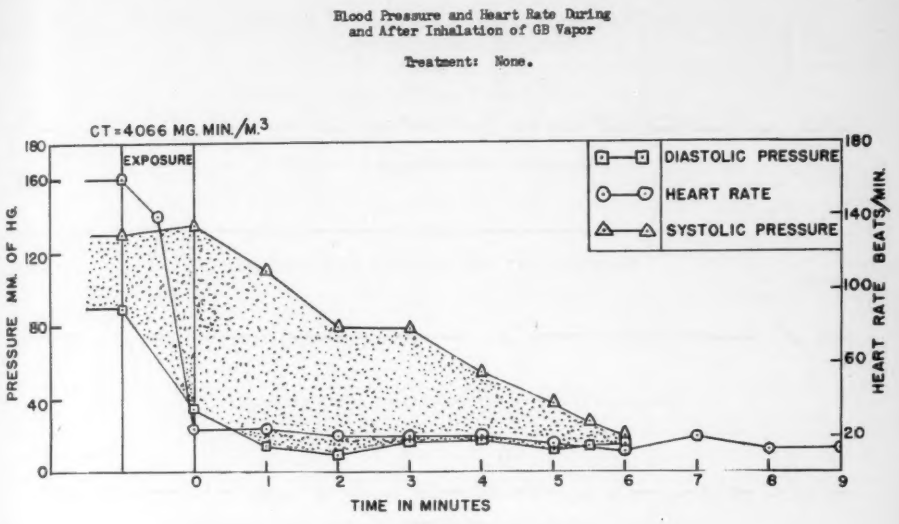

FIG. 3.

of response to the high and low Ct exposures. After exposure the heart rate dropped precipitously to 30 or 40 beats per minute. EKG demonstrated the early appearance of complete atrioventricular block, auricular standstill, and idioventricular rhythm. Figure 5 is a schematic representation of the EKG changes following an exposure of 185 mg. min./m.^{3}. Associated with these events, the arterial blood pressure fell within three minutes to levels inadequate for perfusion of the cerebral, cardiac, and peripheral vasculature (Fig. 2 and 3). The drop in arterial pressure obviously limits the time over which parenterally administered antagonists may be absorbed. Hence, if arti-

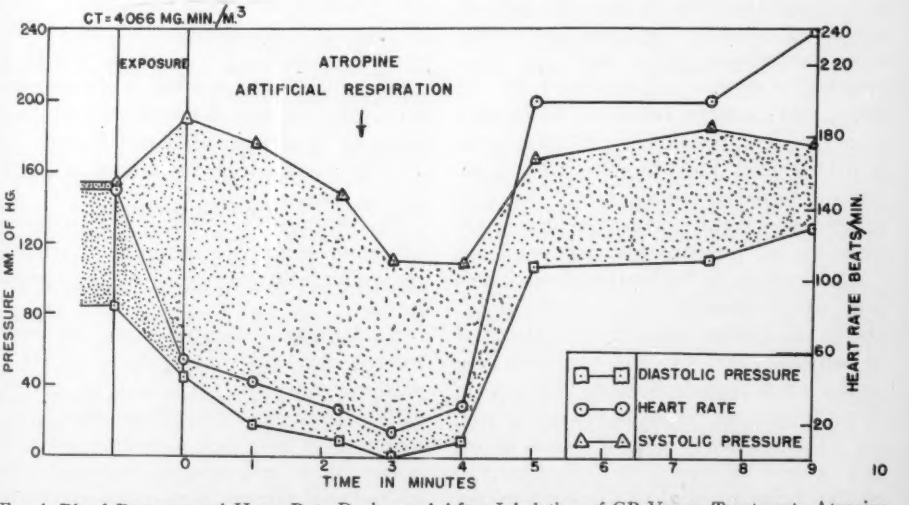

FIG. 4. Blood Pressure and Heart Rate During and After Inhalation of GB Vapor. Treatment: Atropine (5 mg./kg., I.M.), and Artificial Respiration, Using a Tracheal Tube and Air

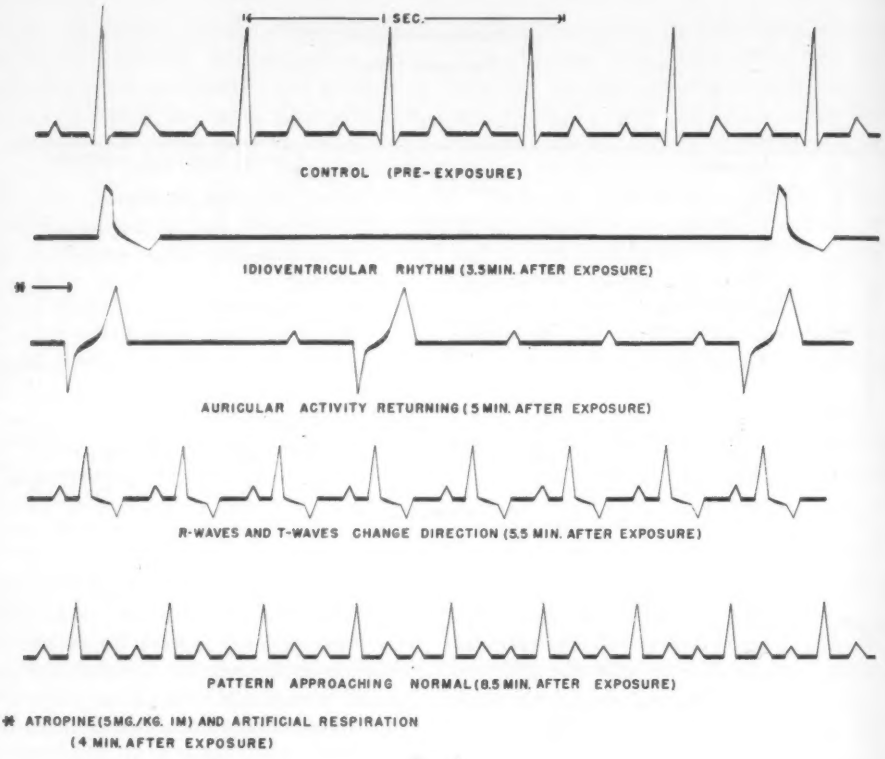
1 SEC.
CONTROL (PRE-EXPOSURE)
IDIOVENTRICULAR RHYTHM (3.5 MIN. AFTER EXPOSURE)
AURICULAR ACTIVITY RETURNING (5 MIN. AFTER EXPOSURE)
R-WAVES AND T-WAVES CHANGE DIRECTION (5.5 MIN. AFTER EXPOSURE)
PATTERN APPROACHING NORMAL (8.5 MIN. AFTER EXPOSURE)
* ATROPINE (5 MG./KG. IM) AND ARTIFICIAL RESPIRATION (4 MIN. AFTER EXPOSURE)

FIG. 5.

ficial respiration and atropine are not administered soon after the appearance of this drop, resuscitation will be ineffective. Idioventricular rhythm, as evidenced by the EKG, may continue for 20 to 30 minutes after the blood pressure has dropped to an ineffective level. Preceding the fall in blood pressure there was usually a brief period of hypertension which commenced during the exposure and persisted for about a minute.

The response of the heart to resuscitation was usually dramatic and occurred within one to two minutes after the administration of atropine (Fig. 4). The heart rate rose within a few seconds from the low level of 20 to 30 beats per minute to 150 to 250 beats per minute. EKG's (Fig. 5) taken during this period showed the idioventricular rhythm being replaced by a normal rhythm and tachycardia (rates of 150 to 250 per minute). Oftentimes P-waves, indicative of the return of the atrial pacemaker, would be seen for a few seconds with the persistence of an atrioventricular block. The block rapidly disappeared, however, and a complete ventricular complex followed each P-wave. With the restoration of normal rhythm the blood pressure returned to normal or supranormal levels.

The results (Table II) of studies on resusciation using two methods of artificial respiration with atropine (5 mg./kg.) are as follows:

a. *Artificial respiration using an endotracheal tube (exposure Ct's from 500 to 4800 mg. min./m.³).* Of 54 dogs exposed, 39 (72%) responded to treatment when it was initiated not later than 4 minutes after exposure. When treatment was instituted within the first 3 minutes, 80% of the animals responded. It should be noted that no animals responded when treatment was initiated

TABLE II. RESPONSE OF DOGS TO TREATMENT FOLLOWING EXPOSURE TO VARIOUS CT'S OF GB VAPOR

Ct of Exposure (mg. min./m.³)	Time After Exposure When Treatment Was Initiated (Treatment: 5 mg./kg. atropine I.M. and artificial respiration)												Not Treated	
	1 minute		2 minutes		3 minutes		3½ minutes		4 minutes		5 minutes			
	R	NR	R	NR	R	NR	R	NR	R	NR	R	NR	R	NR
4000–4800			6 7*	2 2*	5		1	1	1	1		2		
3000–4000			3	1	1	4	1	2		1		1		
2000–3000	2		5		1				1	1		1		
1000–2000	2		1											
500–1000			2		4	1	2		1	1				
250			10*	4*	7*	8*			3*	13*		1*		
185			9* 4**	1* 6**	3**	3**			5* 5**	5* 5**	2*	4*		6
125			5* 3**	1* 3**									4	6

R—response
NR—no response
* Mask-to-mask insufflator procedure.
** No artificial respiration.
All others treated with the endotracheal tube procedure.

after 4 minutes.

b. *Artificial respiration using a mask-to-mask insufflator (exposure Ct's from 125 to 250 mg. min./m.³).* When resuscitation was initiated within 4 minutes after exposure, 39 (55%) of 71 dogs responded. Approximately two-thirds of the animals responded when treatment was started within 3 minutes. In addition, 2 out of 7 dogs treated 5 minutes after exposure were resuscitated.

The above two methods of artificial respiration were compared for effectiveness at only one exposure condition and treatment time; i.e., Ct's of 4000-4800 mg. min./m.³ and treatment 2 minutes after exposure (Table II). The results showed no significant difference between the two methods.

At the low Ct levels of 125 and 185 mg. min./m.³, 32 dogs were treated 2 to 4 minutes after exposure with atropine alone (5 mg./kg.). The respiration in one-half of these dogs was not seriously embarrassed at the time atropine was injected. Hence, these dogs were resuscitated.

DISCUSSION

An understanding of the mechanism of death in GB poisoning is necessary in evaluating methods of resuscitation. Both circulation and respiration fail soon after exposure. At the higher levels (1000 to 4800 mg. min./m.³), respiration ceases before blood pressure falls, but at lower Ct's, the two may occur almost simultaneously. Indeed, at Ct's of 125 mg. min./m.³, depressed but adequate spontaneous respiration may continue throughout. It is obvious that the effects of GB on both circulation and respiration must be considered in resuscitation.

In these experiments atropine has been administered only by intramuscular injection. As pointed out in the introductory remarks,

the absorption of the atropine from the intramuscular depot is obviously necessary for effective resuscitation. The absorption of the intramuscularly injected material is a direct function of the blood flow through that muscle, and this in turn depends to a great extent on arterial blood pressure. Consequently, in order for the injected atropine to be effective, it must be administered during or immediately after the precipitous fall in blood pressure. Atropine injected after this time into a muscle no longer perfused with blood will be increasingly ineffective. Therefore, an important limiting factor in resuscitation is circulatory, in that the specific antagonist is dependent on the circulation for distribution. The restoration of a normal cardiac rhythm and a normal arterial blood pressure is presumably dependent on the delivery of atropine to the coronary circulation. Atropine administered by the intravenous, intrapulmonary, and intracardiac routes is more rapidly effective than that given intramuscularly.[14,15] The relative merits of these more rapid routes of administration are being investigated.

Atropine will not bring about resuscitation in the absence of adequate ventilation. In fact, atropine delivered to an anoxic heart may even be deleterious, in that ventricular fibrillation may be precipitated. It is necessary, therefore, to maintain adequate ventilation so that atropine in conjunction with oxygenated blood can be delivered to the heart. Adequate circulation, however, is still of primary importance in that oxygenated blood must be transported from the lungs to the heart, and the best possible ventilation would be useless in the absence of adequate cardiac output.

In all of these experiments the dose of atropine was 5 mg./kg. Since it took approximately one to two minutes for injected atropine to produce a sudden increase in heart rate, it would seem that when the blood flow is poor at the time of injection the initial rate of absorption is low. The total 5 mg./kg. dose may be excessive, but an excess is probably necessary to insure delivery of the presumably small quantity required to reverse the toxic effects of GB. After restoration of cardiac action, the influx of the excess atropine does not seem to be harmful, at least in dogs. The doses of atropine used in this and other animal experiments must not be utilized directly in planning treatment schedules for humans. Wide species variation in the dose of atropine required for a comparable physiological effect makes such extrapolation from dog to man impossible.[16] Furthermore, nerve gas poisoning increases the tolerance of atropine, and hence it is unrealistic to apply comparisons made with normal animals to the treatment of poisoning.

The treatment of respiratory failure may be considered as dual. First, ventilation must be maintained by artificial means and supplemented by atropine for restoration of spontaneous respiration. The second part of the problem is that of excessive bronchial secretion and constriction. The specific therapy here is atropine, which if administered early after exposure will decrease the secretion appreciably. It is, however, always necessary to supplement the atropine with vigorous efforts to keep the airway clear by mechanical means.

Though these experiments were primarily concerned with immediate resuscitation, it was observed that occasional animals died during the first two days after exposure. The exact mechanism of these late deaths remains obscure, but it was noted that cyanosis; shallow, ineffective respiration; and audible rhonchi were usually present before the ultimate demise. Administration of additional atropine at this time did not seem to be effective. It seems likely that at least some of these late deaths could be attributed to the effects of the excessive bronchial secretions, in that post mortem examination showed the presence of thick, ropey secretions in the bronchial tree. Obstruction with attendant pulmonary infection undoubtedly occurs, and hence, antibiotics and oxygen should be included when possible in any program directed toward complete recovery.

The bronchial secretions could not be cleared as effectively with the mask-to-mask procedure as with the endotracheal tube method. Delayed deaths, possibly from accumulated bronchial secretions, were more common following the mask-to-mask procedure. In the endotracheal tube method, the excess air or oxygen escaping along the outside of the inserted tube tended to clear the trachea of accumulated secretions. Furthermore, the mouth was accessible and secretions could be removed mechanically. A further disadvantage of the mask-to-mask insufflator is the tendency to inflate the stomach unless great care is exercised. The inflated stomach presses against the diaphragm and thus decreases respiratory volume. Anatomical differences make it exceedingly difficult to compare techniques of artificial respiration for animals with those for humans. Despite these disadvantages, however, the mask-to-mask method offers a more practical field procedure than the endotracheal tube technique.

Summary

Death from GB poisoning can be attributed to respiratory and circulatory failure. From the dog experiments reported here it is obvious that resuscitation measures must be directed at both the circulatory and respiratory effects of the agent. The essentials of resuscitation are the administration of atropine in sufficient quantity at the earliest possible time, and the concomitant maintenance of adequate ventilation.

In the dog, the period of time between a one-minute lethal exposure and treatment which will result in resuscitation is short and usually does not exceed four minutes. The time available for resuscitation does not change appreciably with Ct's above 185 mg. min./m.^{3}. Circulatory failure is the factor limiting the time for the institution of effective resuscitation. Atropine administered after the blood pressure has fallen is ineffective. There is no appreciable difference between the effectiveness of mask-to-mask and tracheal tube methods of artificial respiration. The mask-to-mask method, however, was followed by more delayed deaths, presumably due to the poorer removal of bronchial secretions.

Acknowledgment

The authors gratefully acknowledge the technical assistance of Mr. Clyde H. Graf and Pfc John E. Diehl.

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HOLIDAY FIRE HAZARDS TAKE 23 LIVES*

"Fires across the nation have killed 23 persons, most of them children, on the eve of the Christmas holiday celebration.

"All but 10 of the fire victims were children eagerly awaiting the excitement and gifts of Christmas."†

That was last year. Will it happen again this year?

And the saddest thing is that such tragedies often occur around the Christmas holiday—sometimes even around the Christmas tree itself—at the happiest time of the year.

The reason the tree burns so fiercely and so rapidly is because it's filled with pitch and resin—among the most combustible substances known.

What can you do about the tree?

The National Board of Fire Underwriters offers these 12 suggestions:

1. Choose a small tree. It's less dangerous than a large one.

2. Don't set it up until a few days before Christmas. Until then keep it outdoors. This will keep it moist, fresh.

3. Place it in the coolest part of the house, away from fireplaces and radiators. And don't let it block an exit.

4. Stand it in water, or use a live tree planted in a tub of earth.

5. Never use untreated cotton or untreated paper for the decoration on or around the tree.

6. Do not put electric trains under the tree.

7. Use only electric lights, never candles, and see that the wires are not frayed. Be sure that the wiring sets for lights you choose bear the marking of Underwriters' Laboratories, Inc. That shows they have been tested for safety.

8. Provide a switch some distance from the tree for turning tree lights off and on. Don't plug or unplug them beneath the tree.

9. Throw away all gift wrappings as soon as the presents have been opened. Don't let them pile up near the tree.

10. Do not leave the lights burning when no one is home.

11. If needles near the lights turn brown, move the lights.

12. When needles start to fall, take the tree down and discard it.

* *Fire Insurance Facts & Trends*

† United Press, December 23, 1955.

Gaps in Our Battle Line*

By

COLONEL IRA V. HISCOCK, *U. S. Army, Retired*†
President, American Public Health Association;
Chairman of Public Health, Yale University

AS YOU graduates of the Third Class in Military Preventive Medicine embark on your new duties in this specialty, you are invited to consider again our mission and an estimate of the situation in a complex and rapidly changing World. That you are helping to fill the gaps in our battle line against disease and for conservation and improvement of human resources is the important point of this message.

Mission. In military operations, as indicated by Surgeon General Silas B. Hays (Army) in the announcement of the comprehensive and effectively planned course for next year, a major mission of the Army Medical Service is the prevention of disease and injury among troops and the preservation of the health of military commands—"To conserve fighting strength." While this is not the time to review advances in Military Medicine, it is appropriate to emphasize the tremendous gains in care of our troops through wise application of methods of modern science and to suggest some of the remaining gaps. So much has happened since 1893 when, upon recommendation of Surgeon General Sternberg, authority was granted for the establishment of the Army Medical School; and Sir William Osler delivered the commencement address to the first graduating class the following year!

In referring to the relatively good health of the Army, our great leader in military preventive medicine, the late Brigadier General James Stevens Simmons, stressed the viewpoint that "health is a positive thing," and "that it should not be expected as a gift of nature, but that it must be fought for and cherished regardless of cost, in order to maintain the fighting efficiency of the Army."[1] Your Commandant, General Wood, and the Director, Colonel Moseley, and all concerned are to be congratulated upon the scope and content of the methods of preparation in basic and applied sciences and health planning, including civil affairs and military government, nuclear and atomic medicine and the management of mass casualties, besides the attention given to other features of civil defense and to health practices. Foresight in preparation is vital in this struggle for Freedom, even as in 1944 when Prime Minister Winston Churchill said:[2]

"The long and terrible march which the rescuing powers are making is being accomplished stage by stage, and we can now say not only with hope but with reason that we shall reach the end of our journey in good order, and that tragedy which threatened the whole world and might have put out all its lights and left our children and descendants in darkness and bondage perhaps for centuries—that tragedy will not come to pass."

THE SITUATION

In both civilian and military life preventive medicine has become a noble specialty, as observed by General Heaton (Commanding General, Walter Reed Army Medical Center), with the striking progress in hygiene, sanitation and medical affairs. The fundamentals for providing a healthful environment are similar to those of earlier years, but the scope has broadened. New discoveries have been made and new methods developed to cope with changing problems. "God grant us the serenity to accept the things we cannot change, the courage to change the things we can, and the wisdom to know the difference." Increasing attention is being given to the prevention of dis-

* Graduation Address, Third Class in Military Preventive Medicine, 26 July 1956, Army Institute of Research, Walter Reed Army Medical Center, Washington, D.C.

† Formerly Chief of Public Health Section, Civil Affairs Division, War Department, 1943-1945.

eases of non-infectious etiology, to maternal and child health, to the maintainance and improvement of health in middle and old age, and to provisions made by communities for treatment and rehabilitation of the sick and of those who are physically and mentally handicapped. In our broadened horizons, there is increasing concern for human factors in air transportation besides occupational and home health and safety,[3a] and for mental health planning for social action.[4]

"Few Army activities are subject to closer scrutiny than those of protecting the health of the troops and binding up the wounds of those who have borne the battle. As in the matter of feeding and clothing, the general public has well-established civilian standards against which it can measure the efficiency of those responsible for the Army's medical service. When conducted with speed and professional competence this service is a source of comfort to both the men in uniform and his family and friends; when it fails to equal or excel the system of medical care to which American society is accustomed it is subject to immediate and strong protest from a people able and willing to criticize. The successful conduct of a military medical service, therefore, requires not only a knowledge of contemporary civilian medical practice, but also administrative talent capable of adjusting the demands of the public and the medical profession to the Armys' needs in time of war with the minimum of friction." (Smith 3b)

You have given attention to some of the CLUES to progress and to gaps which prevent the wise application of available knowledge concerning preventive medicine. What are some of these gaps? They have both military and civilian significance. They include our often unrealistic and limited provisions and plans in so many localities for defense and disaster, including the usually overlooked stockpiles and measures for medical and sanitary supplies and their locations with a view to accessibility under varying conditions. They include serious gaps in knowledge of prevention and treatment of numerous diseases, such as hemorrhagic fever, hepatitis, poliomyelitis, and even influenza and mental illness, narcotic drug control, unnecessary accidents and alcoholism. Have we really licked gonorrhea, syphilis, and tuberculosis? Have we begun to build a constructive program relating to global epidemiology? Can there be a firmer practical policy relating to military government and civil affairs with special reference to military preventive medicine?

All of these have a military emphasis. So do the so-called factors of the chemical age in which we find ourselves with newer chemicals being used in industry and elsewhere. Some of these chemicals are highly toxic to man. Some create major problems of air pollution and water pollution when discharged. Physical and radioactive properties are causing concern. There is a rapidly changing technology with development in 10 years greater than those in the 100 years between the War Between the States and now. Also, major shifts in population caused new problems of housing, sewage disposal, water supply and community welfare. Even the American Medical Association is performing "surgery on its Code of Ethics." The principles of the code and the age-old oath of Hippocrates emphasize that physicians should try to increase their knowledge and share it with others, render service to humanity,—and participate in any community activity that has the objective of improving the health and welfare of people.

The tide of public interest is flowing swiftly; but there is a lag in motivation for action. A useful book which was published by the Commonwealth Fund has the title "Public Health is People." Have we a barrier of communication by personal contact and other means so that there is misunderstanding of words, of culture patterns (in the U. S. and abroad), of other factors resulting in a lack of understanding and desire sufficient to produce favorable response?

Concepts are clear. In North America and in many other countries there is a common ground of definition of Health, stimulated by the World Health Organization, as a "state of complete physical, mental, and social well-being, and not merely the absence of

disease or infirmity." Perhaps one of the reasons for delays is suggested by Miss Meacham in Separate Tables (of Terence Ratigan) when she says, "People have always scared me a bit; they are so complicated." The Teahouse of the August Moon has other implications. The interpretation may be surprising, as was the bone of contention, "particularly by the ignorant and prejudiced" and superstitious over Ben Franklin's lightning rod:[5]

"During the devastating visitation of yellow fever in 1793, when the cry of 'Bring out your dead' echoed along Philadelphia streets, one of the city's leading citizens, and an ex-Postmaster General, was convinced that the considerable number of lightning rods, 'by imperceptibly drawing off the electric fluid from the clouds, and thereby preventing thunder,' were in large part responsible for the virulence of the epidemic."

In our estimation of the situation and Evaluation for Efficiency in the plan of action, there seems to be another gap which was brought to public attention promptly by the Presidents' Conference on Fitness held in June of 1956. Fortunately, attention was given to both physical and mental fitness of our young people, and to measures to improve conditions in our communities where the home, the church and the school have such an essential role to play. Although equal attention should be given to provisions for young women, as well as for young men, many in the country were shocked by the high proportion of its young men found to be unfit for military service because of mental and physical defects. In this dramatic setting, we see some of the end results of our failure to wage war on all fronts against disease and handicaps. For war against disease must be a total war against insidious enemies of the people of all nations. But we also realize that standards for acceptance depend upon time and conditions, and are altered to fit practical requirements.

Disease recognizes no boundary lines, no classes, no creeds. Though our generation can look back upon many battles won, on ground covered that never need be retraced, there are still many thinly held sectors and serious gaps in our battle lines for Freedom and Fullness of Living. Education is essential for national well-being and progress. Skilled Army medical research aids civilians and military forces, too. The gaps can be filled with increased effectiveness and better use of personnel and other facilities. Furthermore, more than two and one half million students will be enrolled annually in our colleges and universities of the United States. How long must a large portion of them and their families and faculty members continue to be fairly illiterate about specific affairs relating to health and safety? These students have heads and hearts and eyes and ears as parts of their total bodies.[6]

Our CLUES indicate another gap in the inadequacy in numbers and quality of Leadership. We pay tribute to great Health Heroes in the Army, among whom were Walter Reed, William C. Gorgas,[7] G. M. Sternberg, and many others. Recently, the Army Chief of Staff pointed out three qualities which officers must have to provide our Nation with "leaders second to none."[8] These have application to public health and preventive medicine and are: human understanding, professional competence, strong and independent character. In an able presentation, General Maxwell Taylor gave consideration to some of the characteristics of the civilian who in time of war must be converted into a soldier, with the reminder that "the American leader has rarely had the opportunity to command professional soldiers in time of war. If you look back on our history, you will see that Washington, Lee, Pershing, Eisenhower—all built their armies from citizen-soldiers. It has been the problem of providing leadership for the citizen-soldier that has confronted every great leader in every one of our wars."

Needed—A Plan of Action

In our civilian structure, the need is urgent for more and better prepared men and women to assume a variety of attractive and responsible tasks in preventive medicine, be-

sides those who will feature preventive medicine in their private practices. The American Public Health Association, representing the professional public health workers of North America, has noted with concern the fact that in the last eight years the number of professionals in our field being trained at the post-graduate level is inadequate. This has taken place at a time when the population has been increasing and when the need for trained and experienced public health workers down at the grassroots was never greater. Also, there is a very inadequate amount of training being provided to replace the annual loss of hundreds of trained employees leaving state and local health department work annually.[9] The principles underlying preventive medicine and public health have produced much change in the current of medical thought and ideas. To understand basic influences related to morbidity and mortality and improved health it is essential to have at least a general knowledge of the relation of medicine to such conditions as ignorance, poverty, crime, insanitary surroundings, personal and occupational health. A familiarity with the community viewpoint and the general principles underlying these subjects is essential for medical men who are to be leaders in many of the great world movements aiming toward the decrease of illness, the lengthening of life, and the increase of health and happiness.

What is the nature of the dearth of physicians, engineers and nurses in the face of a greatly increased demand? President James F. Killian of M.I.T., said recently[10] in re-examination of elements of strategy for augmenting our scientific and engineering manpower resources, "It is not simply a shortage of men. First and basically, it is a shortage of intellectual talent adequately educated and in the right place. Second, it is more a shortage of specific talents and skills adaptable to specific areas than a general shortage of numbers."

In our study of personnel in some of the states,[11] we were aware that unsettling questions may arise in any agency about the normality of the current program, the level of staff education, the salary range, working conditions, and the like. We were impressed by the need for a careful re-appraisal of our public health organization, personnel policies, and practices, as one of our most important and urgent responsibilities. This need should be considered simultaneously with the opportunity to develop better health indexes and indicators for measurement of results as a basis for planning.[12]

The first step toward the development of municipal health appraisal methods, by the way, was the preparation of a List of Questions relating to the sanitary condition of a city or town, by a Committee of the American Public Health Association in 1875. John S. Billings, M.D., Assistant Surgeon of the U. S. Army, was chairman of the committee and stated in a letter, dated August 25, 1875, that "These questions are intended to obtain, as far as possible, the information which would be desired in estimating the healthfulness of a given place, and to ascertain the local and especially the preventable causes of disease at that point. Facts and not opinions are desired, and the questions are drawn up in that point of view." (Wm. K. Boyle and Son, Stearn Book and Job Printers, Baltimore, 1878).

For evaluation and planning to secure efficiency of operation and constructive services, it is necessary to consider some of these problems and trends. They have an impact on public health and illustrate some of the unsolved problems and untilled fields of significance in planning. We can admit that throughout the Nation we are notoriously weak in plans and resources for civil defense, but we gain renewed courage as we observe graduates like yourselves who can play important roles of leadership. The complexity and multiplicity of our current problems of health and hospital affairs[13] underscore the need for benefits of united action and planning by all types of agencies and citizens and taxpayers with widely varied

interests.[14] Among some of our untilled or only partially tilled fields, the following may be listed in summary:

1. Plans to be developed for better health administration;

2. Increased support of activities to recruit and prepare urgently needed health personnel;

3. Schemes to be formulated for meeting the growing problems of aging, chronic illness and rehabilitation;

4. Barriers to be removed to insure more effective programs for mental health and for health education of the public;

5. More constructive provisions for health among employees and students in schools, colleges, and industries;

6. More extensive and realistic provisions for civil defense, and for military government—civil affairs public health;

7. Increased research on numerous unsolved problems;

8. Better evaluation methods for measuring the levels of health and the results of programs of public health and preventive medicine.

It is hazardous to forecast. There will be change in the patterns of economic development and of medical and public health affairs. We need more light on many issues. We need to continue to "fight dirt" and accidents. Preventive medicine will be incorporated in clinical medicine more fully; and the general practitioner of medicine will play an increasing role while other specialists continue to make their contributions and preventive medicine becomes utilized more in medical care.

Leadership

Without becoming complacent, we can glance back and observe that the ordinary American is here still relatively free, still the final authority in public affairs, still better fed, better clothed, and better housed than the common man in an other country. "If he has been here since 1900," says Gerald W. Johnson in *Incredible Tale,* "The mere fact that he has survived means a great deal; for twice within that period a coalition of empires has risen against him to beat his political system down, once his economic system crashed about his ears, practically every year some part of his social system has given way and has had to be remodeled and rebuilt, and for the past five years his form of government, his economy, and his faith have been sternly and relentlessly challenged by the most redoubtable foreign power in existence. Yet he survives.—If the rising generation is made of material as durable—mentally, morally and physically—there is little justification for the prophecies of doom which have been so frequent recently."[15]

In this age of rapid change, we must be prepared and have the courage to change with changing conditions. This calls for research[16] and for personnel who are prepared for leadership, under conditions such as those so wisely provided and ably guided in The Walter Reed Army Institute of Research.

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In taking positive action against chronic diseases, we have at least four distinct lines of approach:

We can prevent the inception of certain diseases.

We can retard progression by early detection and early therapy.

We can mitigate the effects by rehabilitation.

And we can support constructive programs for reducing the social and economic effects of chronic disease upon the patient, his family, and his community.

None of these approaches, however, can we develop on a scale commensurate with the need if we act independently, either as practicing physicians or as public health officials.

SURG. GEN. L. E. BURNEY, USPHS
Before House of Delegates, Indiana
Medical Association, Oct. 18, 1956

The National Aircraft Show—(1955): Organization of Medical Coverage*

By

CAPTAIN CHRISTOPHER C. SHAW, (MC) *U. S. Navy*†

(With two illustrations)

THE National Aircraft Show, the annual report to the nation's taxpayers on the progress of American aviation, is sponsored annually by an organization known as the National Air Foundation with home offices in Cleveland, Ohio. The show is usually held on three consecutive days over the Labor Day weekend at a commercial airport offering an appropriate combination of facilities and population concentration. In past years the show was known as the Cleveland Air Races. Subsequently, it was called the National Air Races and finally was entitled the National Aircraft Show and as such was sponsored annually in a number of different cities including Cleveland, Dayton, Detroit and Philadelphia.

The National Air Foundation is headed by the Chairman of the Board of Thompson Products, Inc., of Cleveland, Ohio and is sponsored and supported by other members of the aircraft industry. It is a non-profit organization and exists primarily for the purpose of putting on the National Aircraft Show; however, it also sponsors a number of scholarships for aeronautical enginering students at various colleges and universities.

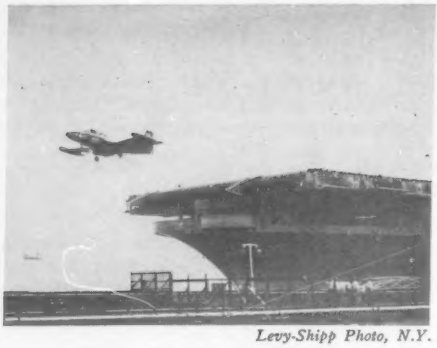
Participation by military aircraft plus static displays by the Armed Forces and by various members of the aircraft industry makes up the major portion of the Air Show. In 1955 military participation was directed by the Secretary of Defense, who established a Senior Defense Coordinating Officer (an Air Force General) with a staff to provide coordination between the three Services and the U. S. Marine Corps. Philadelphia was chosen for the 1955 National Aircraft Show because of available facilities, accessibility of transportation, large population and because naval aircraft could be launched by catapult from a carrier located in the Delaware River adjacent to the Philadelphia International Airport. Since the Secretary of Defense directs Service participation, the greater portion of the costs of this participation must be borne by the Services. However, the costs of operation are refunded to the Department of Defense and, after due allowance for certain commitments (scholarships, etc.) of the National Air Foundation, surplus funds are distributed equitably among the Relief Societies of the four Military Services.

ORGANIZATION

The National Aircraft Show, "the greatest display of American Military air strength ever staged," was held at the International Airport, Philadelphia, Pennsylvania over Labor Day Weekend, 3, 4 and 5, September 1955. Early in March the Department of Defense approved participation of the Armed Forces in this event. The Secretary of Defense designated General Edwin W. Rawlings, USAF, Commander of the Air Materiel Command as Senior Defense Coordinating Officer for the Armed Forces. Participation by the Navy was directed by the Secretary by letter dated 17 March 1955. The U. S. Navy, being in control of majority facilities in the Philadelphia area, furnished logistical and administrative support to the maximum.

* Presented before the Aero Medical Association, Chicago, Illinois, 18 April 1956. The opinions or assertions contained herein are the private one's of the author and are not to be construed as reflecting the views of the Navy Department or the naval service at large.

† From the Medical Dispensary, Philadelphia Naval Shipyard, U. S. Naval Base, Philadelphia 12, Pennsylvania.



Levy-Shipp Photo, N.Y.

FIG. 1. Navy "Banshee" launching from the deck of USS *Ticonderoga*. This was the first public demonstration of catapulting from a carrier moored to a dock.

The Chief of Naval Operations appointed the Commandant of the Fourth Naval District the Navy Coordinating Commander, who nominated the Commander of the Naval Air Development and Materiel Center (Johnsville, Pennsylvania) as the Navy Project Officer. A Coordinating Committee was established to assist him in accordance with DEFSENCOOOFF Joint Operations Plan 1-55 of 20 July 1955, which included the following statement: "The U. S. Navy will provide emergency medical service at Philadelphia International Airport."

On 11 August the Navy Project Officer issued Operation Order 1-55 which spelled out the responsibilities of task organization and lines of authority in the fields of administration and personnel, transportation, security, public information, operations (air, ground and ship), safety, static displays, exhibits, aircraft staging and maintenance, carrier catapult cooperation, supply and fiscal support, communications and logistics. The mission of the division of Logistics was to coordinate preliminary arrangements and actual execution of aircraft maintenance, supply and fiscal matters (including procurement and dispensing of aviation fuel and lubricants) and "medical assistance."

During the intense heat and insufferable humidity of the Philadelphia summer, numerous staff meetings were held in compliance with Operation Plan 1-55 of 20 July. The writer of this article served as Flight Surgeon on the staff of the Navy Project Officer, Rear Admiral S. B. Spangler, USN. The following Medical Task Organization was prepared and adopted as Appendix II, Annex "D" of Operation Order 1-55 (COMNADMC) of 11 August 1955:

Medical Officer—CAPT C. C. Shaw (MC) USN, Naval Base, Philadelphia, Pa.

1. *Mission:* To provide medical services to all military personnel participating in the National Aircraft Show on 3, 4, and 5 September 1955.

2. *Tasks:* The Medical Officer will provide the following services:

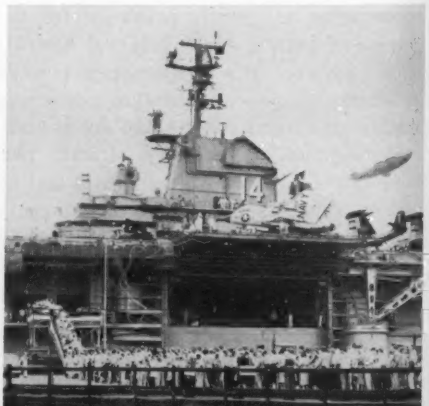
a. General sick call, Naval Base Dispensary, Building 615. Daily 0800Q to 0900Q and 1300Q to 1400Q.

b. Emergency treatment anytime at the Naval Base Dispensary.

c. Emergency medical service for military personnel at the Philadelphia International Airport.

3. *First Aid Station:*

a. A First Aid Station will be established in a space to be assigned at the Philadelphia International Airport. Personnel and services include:



Official U. S. Navy Photo

FIG. 2. Visitors boarding the aircraft carrier, USS *Ticonderoga*.

(1) Personnel:
Medical Officers
Medical Administrative Officers
Nurse Corps Officers
Hospital Corpsmen

(2) Supplies. Emergency medical supplies will be available at the First Aid Station.

(3) Ambulance Service. Four (4) ambulances with necessary equipment and personnel will be stationed at strategic locations. These ambulances will be provided as follows: Shipyard Dispensary—2, Naval Hospital—1, Olmsted AFB —1.

b. The Naval Hospital, Philadelphia, Pennsylvania is designated for military personnel and civilian humanitarian cases requiring hospitalization.

c. The First Aid Station and two (2) ambulances will be fully manned between 0900Q and 1800Q during the days of the Aircraft Show.

d. The First Aid Station and four (4) ambulances will be fully manned during aerial demonstrations.

4. USS *Ticonderoga:* The medical facilities and personnel of the USS *Ticonderoga* will provide medical coverage on and in the vicinity of the ship.

5. *Records:* A separate sick call log will be kept for each of the following military personnel: (a) U. S. Navy and U. S. Marine Corps, (b) U. S. Army, (c) U. S. Air Force, (d) Civilian casualties (humanitarian care).

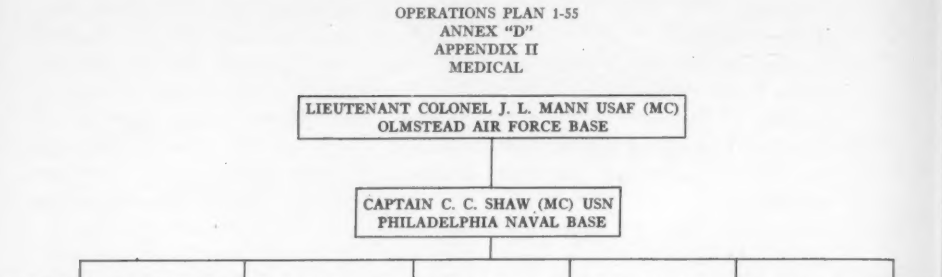
Medical Coverage

Medical and ancillary personnel were obtained on a voluntary basis from the Philadelphia area, namely: from the Naval Shipyard Dispensary, from the U. S. Naval Hospital and from the Naval Aviation Medical Equipment Laboratory. Other contributing agencies were the Naval Aviation Medical Acceleration Laboratory located in Johnsville, Pennsylvania, the U. S. Air Force Base in Olmsted, Pennsylvania and the USS *Ticonderoga* operating her planes by catapult while tied up along dockside at Hog Island in the Delaware River. Medical "coverage" was provided by 10 military doctors (9 Navy, 1 Air Force), 3 Medical Service Corps officers (Navy) and by 29 Hospital Corps enlisted ratings (Shipyard Dispensary 18, Naval Hospital 8, Air Force 3). Four ambulances were employed: two on the Flight Line four hours daily during actual flight operations, one at dockside stationed near the gangway of the USS *Ticonderoga,* the fourth in a ready stand-by status at temporary Sick Bay at the National Air Show.

Temporary quarters for Sick Bay were obtained in a section of the Cargo Building at the Philadelphia International Airport. Emergency medical and surgical equipment and supplies estimated for a five day period were provided by the Medical Dispensary of the Philadelphia Naval Base.

In accordance with Operations Plan 1-55 (Air Operations Annex, "Tactics"): "Safety will be the primary consideration at all times. Each Service will insure that proficiency of aircrews and ground-servicing crews, the mechanical condition of aircraft and ground-servicing equipment is in accordance with the highest standards attainable. In the event of emergency conditions necessitating abandonment of aircraft, every precaution must be taken to minimize danger to life and property on the ground." No planes carried live ammunition.

Public health aspects of comfort and welfare of anticipated large crowds were handled by the following agencies: Department of Health of the City of Philadelphia (Dr. James P. Dixon, Commissioner), the Pennsylvania State Civil Aeronautics Patrol, and the American National Red Cross, which provided shelter tents, comfort stations and temporary field "hospitals" for civilian ill or injured. Exhibit space was furnished by courtesy of the 111th Fighter-Interceptor Wing of the Pennsylvania Air National Guard and by authority of the Philadelphia International Airport. Security and order were maintained by each of the three military



Services in conjunction with City and State Police.

Summary

As a result of excellent coordination of all these "public services," there were no serious accidents and no deaths. During that three day holiday period (September 3, 4 and 5, 1955) there were 299,000 paid admissions to the National Aircraft Show. Each day more than ten thousand people visited the aircraft carrier, USS *Ticonderoga.* Review of the military Medical Log kept at temporary Sick Bay in the Show Area reveals that 3 civilians received humanitarian "first aid" as follows:

1 fracture of elbow from fall while boarding a bus,

1 severe burns of hands—photographer held camera too close to flame from afterburner of jet plane catapulting from USS *Ticonderoga,*

1 convulsive seizure in a child.

There were no military emergencies and no "injuries, multiple, extreme." One jet plane returning to base experienced a flameout but executed an emergency wheels-up landing safely at the Camden, New Jersey Airport. Minor ailments were logged as follows: Army 0, Navy and Marine Corps 1, Air Force 7, Civilians 20, Total 28.

A total of 3,498 military personnel participated in direct support of the National Aircraft Show. As "host," the Navy provided base support services, line maintenance of Army and Navy aircraft, crash, fire and medical facilities, and the billeting and messing of military personnel of all Services quartered at the Philadelphia Naval Base. There were no crashes and no fires.

Conclusion

For the benefit of the 1956 Project Commander the members of the Staff of the Navy Project Officer prepared a "Briefing Folio," consisting of detailed notes and recommendations based on experience at Philadelphia during the summer, 1955. Much of the material in this article is taken from that summary. Section D of this Briefing Folio is devoted to "Logistics," which reported as follows:

"Medical facilities were more than adequate for this specific occasion. Fortunately, there was little call for medical service in the Show Area. This is one area, however, in which it is better to be prepared for any eventuality."

The moral of this article may be summed up by the old adage, "a stitch in time saves nine," or to paraphrase a familiar homily: "The best way to prevent accidents is to prepare for them."

ADDENDUM

The success of any combined undertaking is commensurate with leadership, organization and teamwork. Adequate medical coverage for the 1955 National Aircraft Show was made possible by the active and cordial cooperation of many individuals to whom the writer is indebted:

The Commandant of the 4th Naval District—Rear Admiral E. H. von Heimburg, USN.

The Commander of the Naval Air Development and Material Center—Read Admiral S. B. Spangler, USN, Johnsville, Pennsylvania, who served as Navy Project Officer for the National Aircraft Show.

The District Medical Officer—Rear Admiral Roy Fulton, (MC) USN.

The Commanding Officer of the U. S. Naval Hospital, Philadelphia—Rear Admiral C. G. Clegg, (MC) USN.

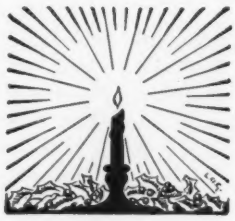
The Executive Assistant to the Navy Project Officer—Captain T. D. Davies, USN.

Superintendent of the Aviation Medical Equipment Laboratory, Philadelphia—Captain C. F. Gell, (MC) USN.

Director of the Aviation Medical Acceleration Laboratory, Johnsville, Pennsylvania—Captain H. G. Shepler, (MC) USN.

The Assistant Project Officer to the Logistics Officer—Lieutenant Colonel J. L. Mann, USAF (MC), Olmsted Air Force Base.

The Medical Officer, USS *Ticonderoga*—Commander Neal Morris, (MC) USN.



FIRST ARMY BANS DAWN DASH

The First Army, with headquarters at New York, has banned night driving for soldiers on leave "to eliminate the dawn-dash driving that has killed and maimed so many soldiers." Leave schedules have been revised so soldiers leave and return to the post during daylight hours.

EDITORIALS

Christmas Joy

THE material things which come into our minds when we contemplate the Christmas Season are indeed many. These recollections depend upon who we are, where we are, and what we might be doing.

The child envisions the Christmas tree with all of its ornaments, Santa Claus with his red cheeks and snowy beard and fat belly, toys with their bright colors and jingling sounds. As he gets older there are the Christmas carols, the Star of Bethlehem, the Shepherds and the Wise Men, and the more substantial gifts—books, athletic equipment, and clothing. Finally, there is the adult who visualizes a multitude of material things for the joyful Christmas Season.

But is all this the real joy to be derived from the Christmas Season? Is there not something deeper, something intangible, something that is so a part of us that to take that something away would destroy the very feeling we have for Christmas? If it is only material things we envision, devoid of that something that stirs our very souls, then where is the Christmas Joy?

Almost two thousand years ago there was born a person who possessed few material things during his lifetime. But because of that person the world has been changed. Not a giver of material things was he but a giver of a new way of life. That way of life has come down to us and we celebrate the birth of that great man every year. This man received nothing from the world but gave everything to it, never expecting any material gain.

Does not the real Christmas Joy lie in giving our hearts and souls to the world wherein we live, never thinking of any material gain for ourselves?

Fight for Freedom

DEPRIVED of her weapons of defense after World War I, a small nation, counting some ten million heads, had been mutely bearing her mutilation and ignominy in a country dwarfed to the size of the State of Maine. After Trianon, hopeless fate was forced upon her by powerful neighbors. Nobody in the community of nations would listen to her protests of "No, No, Never!"

Then, unarmed and held captive behind the fence of mines and barbed wires, oppressed and brain-washed by years of foreign rule, the people of that nation took courage to arise in face of the powerful war machines of their tormentors. Single in mind and single in body they broke their chains, shook off the chains, and, bleeding from many wounds, they swore by the God of their forefathers not to be yoked again in servitude.

Such heroism and such spectacular bravery is but the latest of the fiery shows of this gallant nation's ardent spirit of independence, a distinctive mark of the people since early medieval times when they followed Árpád, their valiant chief, and fought for themselves a place to live, in the river basin which is protected by the circle of the Carpathian Mountains at the North and the East.

The combination of rivers and mountains in their land forms a hub from which Nature's own roads lead to all parts of the West, giving the nation a key spot on the Earth, strategically the most important in the military defense of Western Europe. Indeed, throughout more than a thousand years of history, she held the strategic basin, strengthened and manned it with a long

line of heroes who, with their blood and lives, virtuously defended their country as the bastion of western culture and civilization. During their present fight for freedom, from the tops of street barricades and over the roaring of machine guns and tank fire, a new generation of heroes shouted to the world that they were standing, bleeding, and dying for the principles of the West again.

Truly, since the times of St. Stephan, her first king, this nation of freedom-loving people has been growing on western ideals and western morals. Throughout a millennium, her education has been following patterns of the Christian West. It was the West where her scholars of all eras turned for the traditions of science and where her artists polished their art and craft. It was western civilization which the warriors of Hunyadi, led by the cross of Capistrano, had defended against the Asian hordes of invading Turks. And it was the millennial tradition of western culture which now moved the brave nation to rise up against her Eastern oppressor.

A nation that has always identified herself with Western culture and Western interests could not be forced by any political power on the globe to stay in an ideological orbit foreign to her and repulsive. Decisions of misguided power-politicians may try to sequestrate a freedom-loving nation behind fences of tyranny, and to divert eastward the natural westward flow of her life circulation. But political experiments which drive a nation into foreign slavery and make martyrs of her people are doomed to failure.

It was the innate, latently burning spirit of independence which on 23 October, 1956, flamed up in the Hungarian nation and made the martyr Magyars rebel in one mind and one body. Was it utter foolishness? No! It was the utmost bravery to cast away the red rags of communism and, armed only with the beloved and long-hidden Red-White-and-Green flag in hand, to march against columns of monstrous tanks and grinning guns of a ruthless world-power. It was the nation's gesture of utmost contempt when the people of Budapest, nauseated by incessant communistic propaganda and loathsome of the lessons on Marxism and Leninism, pushed off from its pedestal an oversize bronze statue of the scrapped dictator and triumphantly dragged it along the main street before the very palace of the Security Police where Cardinal Mindszenty and other religious leaders had been tortured by henchmen of the Kremlin Politbureau.

The entire western world applauds the accomplishments of the Hungarians who with bare hands succeeded where others, backed by armor and modern science, remained impotent. Now, communism has been also unveiled as a bluff. Nine years of communist servitude robbed this land of its natural resources, and made the people utterly exhausted, decimated, subjugated, and desperate. The rule of the Red Star had not satisfied a single class of the people. Industrial workers and farmers, proletarians, and professional groups alike, finally had to realize that falsehood and deception are inherent in the communistic system of government. As the years piled up in tyranny, the nation's yearning after Truth and after pure values of life was growing more and more ardent. The Hungarians proved to the world that not only is there no truth in communism but that there can never be a compromise, a middle road between the Cross and the Sickle.

The October Revolution of the Magyars rolled up a section of the Iron Curtain, but it also exposed the false values of communistic ideology behind it. The effect of this bravery in the Mid-Danubian Valley will therefore not be limited either to geographic boundaries or by barriers of Time. The example of the uprising Hungarians provides leadership for all oppressed people of the world today and tomorrow. While the world is in sympathy with Hungary's own national aspirations, it is also certain that this God-fearing people not only abrogated the foreign rule merely in their own country, but they also shook the very foundation of communism all over the globe. The wave

of the Hungarian eruption of independence reached as far as Red China; it also seems to have loosened the Red grip on the Russian hammer-and-sickle.

Their October rebellion for freedom also achieved something for the Hungarian nation which neither socialistic experiments nor armed forces had been able to accomplish before. It brought all Magyars, without social distinction, into a firm brotherhood, and created a truly undivided nation. It was their single ideal purpose of Freedom which transformed overnight the tired slaves of yesterday into a tank-breaking formidable power of steel will of today. This valiant nation showed thereby the way to a new kind of freedom in which all individual freedoms, each in virtue of its own peculiarity, melt together into a moral power so that individual freedoms also become more effective and Freedom of Man obtains powers to the utmost perfection. Such moral power can come from the intuition alone that the basis of this national life is solid and permanent.

Such is indeed the Freedom derived from the understanding of Truth! It issues from the soul, the source of all harmony. Let us hope that in the near future, in their struggle for freedom, a newly recovered free national existence will come to the Hungarians and that peace and harmony of the soul that Mankind has been pursuing since the Birth of Christ will be found in this world.

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Around the World

(Ser. II, No. 4)

By

CLAUDIUS F. MAYER, M.D.

DARJEELING District of *Northern Bengal* in Asia, surveyed over 12,000 of its inhabitants for goiter. The statistical figures showed that 63% of the population was suffering from various degrees of enlargement of the thyroid gland. The ratio of goitrous women was higher (71%) than that of goitrous children (67%) or men (53%). It is believed that, in this area, goiter is chiefly the result of eating large quantities of cabbage!

An American dentist who spent a summer in the United Christian Hospital in Lahore reported on his experiences in Asia. He found that in *Pakistan,* where *toothbrushes* are not widely used, oral hygiene depends upon the use of "dataan" (a piece of bark of a tree) and charcoal. People clean their teeth by chewing on charcoal, or rubbing it between their teeth with their fingers. In spite of this, calculus deposits are heavy, and periodontal disease is widespread. This fact reminds us of the experiences of an Australasian dentist who observed that a large proportion of *Europeans residing in Australasia* have no periodontal disease. Of course not! They have perhaps no teeth. A survey, made a couple of years ago in New Zealand, proved that 50% of the adult white population were wearing complete upper and lower dentures, and a further 15% were wearing complete upper dentures.

A diabetic Hindu doctor told about his personal wonderful experience with the fresh *juice of bittergourd* (Karela, or *Momordica charantia*). After a two-week treatment he could omit the previously needed 25 units of insulin, and his urine remained sugar free. Karela is a creeper which grows all over India. Its fruit is green or white when tender, and red in color when ripe. It brings down temperatures, gives relief in jaundice, is an anthelminthic and expectorant. Its leaf-juice is diuretic, emetic, and purgative.

Just about a year ago the *Asian-Pacific Tuberculosis Conference* was held in Sydney. Its reports came to us lately from Australia. It was the first international conference on tuberculosis to take place in that part of the world. Delegates appeared from many Asiatic countries. The Conference also learned the American viewpoint on the treatment of tuberculosis in that there is no single "best" drug or drug-pairing for the disease and that the treatment should fit the individual situation. This means that, when the tuberculosis is active, it should receive chemotherapy for 18 to 24 months, without relaxation and without much worry about the pathological type of the disease. The three proved drugs are isoniazide, PAS and streptomycin, but PAS is not suitable for self-administration while the antibiotic requires injection. Thus, only isoniazide remains for home treatment. The ideal would be to give all three drugs for a period of two years, preferably successively so that no drug would be given longer than 6 to 9 months.

The Conference also learned that, among the newer drugs which are experimentally used against tuberculosis, the Irish Medical Research Council tried pyrazinamide, a hepatic poison, cycloserine, a drug causing convulsions, and hinconstarch which is a complex molecule including both isoniazide and thiosemicarbazone. The drugs are now under clinical trial. Consideration was also given to the question whether isoniazide could be used for the *treatment of tuberculosis converters* and whether it thus could substitute BCG therapy. (Since BCG is a single shot and isoniazide is an oral drug which has to be taken daily for about two

years, one can hardly talk of substitution).

By the way, *substitution of isoniazide* for BCG was tried in India but it was met with some opposition (Majundar). A Melbourne professor recently developed "verazide," an insoluble derivative of isoniazide, which proved very effective in experimental tuberculosis of animals. It was the practice in Adelaide that trainee nurses who "converted" would be sent on two months' "Mantoux leave"; now, they are given isoniazide instead of the leave.

In Viet-Nam, the *clinical picture of tuberculosis* completely changed during the past ten years. Formerly, the patients suffered from prolonged fever, hemorrhages, and irritating cough. Now, they rarely cough, and almost no fever and no bleeding occurs (Pham-ba-vien). Everywhere in the Asiatic-Pacific area the tuberulin test had been used, for diagnosis as well as in epidemiological work, on the assumption that the sensitivity elicited by any dose of tuberculin was specific for virulent tuberculous infection. Then, it had been shown that tuberculosis was not the only cause of *tuberculin sensitivity in human beings*. The reaction also depends upon the "seed and soil," the sensitizing agent and the racial uniformity and geographical distribution of the population. Evidence, collected at the Tuberculosis Research Office in København, shows that the prevalence of non-specific sensitivity tends to be the highest in countries of the more tropical regions, in rural areas, in lowlands, etc.

Experience shows that in true tuberculosis, five tuberculin units are sufficient to a reaction and to distinguish it from non-specific reactions. It was found that those whose reactive erythema measured 6 to 8 millimeters should receive BCG vaccine. But why BCG? We should recall the *Swedish experiment* where every infant receives BCG vaccine at birth; each child is retested and revaccinated, if necessary, on admission to school; and tested and revaccinated again, if necessary, on starting military service. With all these precautions, did Sweden's death rate from tuberculosis show any spectacular drop? It did not, and Sweden is no better off than the countries where there was no such procedure.

Probably the largest project of *BCG vaccination* in the world is now carried out *in India*. Until now, over 60 million people had been tested, and perhaps the whole Hindu population may be tuberculin-surveyed by 1960, in spite of the strong opposition by certain groups of laymen. In Papua-New Guinea, about 500,000 people in the mountain districts are negative to tuberculin tests; when they come to the coastal areas for jobs, many of them would contract tuberculosis and die. Protective vaccinations of these people started several years ago. It seems that, for many years to come, *tuberculosis of the unprotected people* remains a serious public health problem in Asia.

Another grave problem of that continent remains the *extermination of malaria*. Its success greatly depends upon proper malarial surveys which are frequently hazardous and most difficult to carry out. For instance, in *Sarawak*, a thinly populated country with very poor communications and almost no roads, most of the villages had to be reached by canoe or on foot, and only 10,000 people were reached out of a total population of 600,000. Sarawak is in Borneo, along the coastline of the South China Sea, but only its hilly and mountainous areas are important from the standpoint of malaria prevalence. Among the country's various races the Malay and Chinese do not suffer as much from the disease as the Dayak, Kayan and Kenyah tribes who all lead a seminomadic way of life. The chief vectors of malaria in Sarawak are the mosquitoes *Anopheles leucosphyrus*, and *A. barbirostris* against which DDT proved to be very effective.

There are a number of islands in *Melanesia, too, where malaria* had taken its toll since the time of the first exploration and settlement by the Europeans. Until recently there has been no effective rural malaria control in the Southwest Pacific area. Larval control measures could not be extended, and are not applicable to rural sections, and na-

tives do not like to take prophylactic drugs. Residual spraying of the homes with insecticides was also held not very effective since the main anopheline vectors of malaria in this area are members of the *A. punctulatus* group, and these mosquitoes usually do not remain in the houses. Yet, they rest indoors for a sufficiently long period of the night to attempt their control by Dieldrin or DDT residual spraying. This seems to be now the only feasible method of malaria control in Melanesia.

To European countries the modern *system of Social Security* brought a new difficulty. It is the abuse of prescriptions. At various quarters it was suddenly realized that prescriptions cost tremendous sums of money and they may completely bankrupt any nation's health insurance system. In Great Britain, for instance, where the government pays the drug bill, the Health Department studied the cost of drugs and medicines, and found that the general level of prices charged by the companies—averaging 7.4% on capital employed, the highest being 24% —was not excessive. There were however instances of products where the profit of the manufacturer amounted to 60%-100%. As a result of the study, three firms reduced their prices so that the British government will save almost a million pounds a year.

Under the limited scope of the British National Health Insurance scheme *the average cost of a prescription* was 1 s.8 d. in 1947, 3 s.1 d. in 1949 and 4 s.3.73 d in 1954. Antibiotics in particular added to the cost of the general pharmaceutical service. Now, the Chief Medical Officer of the British Ministry stated that the number of prescriptions issued each year in that country was 220 million, or, on the average, five prescriptions per annum for every person enrolled in the National Health Service.

At Christ College, Cambridge (England), under the auspices of the Nuffield Foundation, the professor of experimental physics has been carrying out historical studies on the construction and *manufacture of scientific instruments.* He places the beginning of such industry into the 15th century when it originated in Nürnberg from where it spread throughout other German and Belgian cities. In 1650 London was the center of manufacture of scientific equipment.

All European military services have now adopted the *system of physical profiles* and adapted it to their own language so that our American PULHES became PULHEEMS in Great Britain, EVASIFX in France, EVUSI in Italy, PSIVAME in Belgium, ABOHZIS in Holland, etc.

International statistics may be fascinating because they allow a glimpse into the character and habits of nations and races. For instance, the mortality figures for 1953 (which were recently published by WHO) include a comparative table showing the percentages of the different categories of *non-traffic accidental fatalities.* According to the table the people of Scotland were the most careless with poisons, because among the different countries of the world they had the highest proportion (16.5%) for fatal poisoning among their accidents while the people of Ceylon had the lowest rate for death by poison (3.0%; U. S. figure 5.1%). Maximums and minimums of death rates for other categories of accidents were as follow: a) fall: highest in Denmark, 61.4%; lowest in Japan, 13.3% (U. S., 39.9%);—b) accident by machinery: New Zealand, 6.3%; France, 0.2% (U. S., 4.1%);—c) fire and explosion: Ceylon, 13.6%; France, 0.4% (U. S., 12.7%);—d) hot substances: Italy, 6.4%; Norway, 0.6% (U. S., 1.6%);—e) firearm: Australia, 4.6%; Germany, 0.5% (U. S., 4.4%, the second highest);—f) drowning: Finland, 34.3%; Denmark, 8.3% (U. S., 10.3%). Yet, the highest mortality rate from accidental deaths was found in the United States (60 per 100,000 inhabitants), while Ireland showed the lowest fatality from accidents (28.1 per 100 M).

Many laboratories studied the *carcinogenic danger of tobacco smoke.* British chemists identified the culprit as 3:4-benzpyrene which, together with anthracene and

pyrene, is present in the tar of cigarette smoke. During smoking both the tobacco and the paper of cigarettes yield 3:4-benzpyrene. A person, smoking 40 cigarettes daily for a year, would inhale 150 micrograms of the carcinogen in fine suspension, and would take additionally 200 micrograms of the carcinogen, adsorbed on carbon particles, from the average urban atmosphere. According to estimates, the cigarette paper alone contributes 0.05 microgram of benzpyrene to the total of 1 microgram carcinogen from 100 cigarettes. These figures would mean that all smoking carries the risk of cancer of the respiratory tract. Yet, the smokers of the world are hard to convince. In the near future, London intends to replace its 1,800 trolley buses by *diesel-engine vehicles.* This caused great alarm among the doctors because there was found a remarkable coincidence between the increased use of diesel fuel for transport and the rise of mortality from lung cancer.

The problem of smoking and lung cancer has been a frequent topic at the assemblies of various learned societies. Recently, it came up also in the British Parliament, and that illustrious body wanted to learn from the Minister of Health whether he wished to take further action to enlighten the public about the fateful association of tobacco and cancer (The Minister of Health who is a layman and had become minister a few months ago is expected to be the oracle on all medical matters). The Laborite members of the Parliament saw the Health Minister hesitant in making up his mind to launch a *national anti-smoking campaign.* When he seemed to be quite reluctant to give a straightforward unequivocal answer, Mr. Shinwell, a Laborite member finally asked in exasperation: "Will the Minister remove this uncertainty? Is it safe for me to have a smoke this afternoon?" "If Mr. Shinwell abstains from smoking"—replied the Minister slyly—"he knows that there will be no danger at all." By the way! Sweden went forward and *prohibited the advertising of cigarettes,* cigars and tobacco.

In view of the difficulty of obtaining a steady *supply of corpses* for the students of anatomy, a lady doctor of Massachusetts (of Boston in particular) suggested a few months ago that doctors should donate their bodies (cadavers, to be sure) to the dean of their own medical schools. One wonders how crowded would the medical schools look if all former graduates would be duly embalmed and turned over to their Alma Mater as important educational assets!

The Editor of the *Medical Journal of Australia* points out that it is very difficult to train there an intelligent native girl in the ways of white civilization. She may have a better intelligence at her "preteen" age than her white school fellows. But when she enters "teen-age" she becomes restless, and one day she disappears. When next seen, she is a scarred and verminous savage with pendant breasts nursing a baby. The Editor remarks that such an *upsurge of the savagery* is innate in the growing boy and girl of all races. There is not much difference between the native Australian girl reverting to her own tribe and the rock-an'-roll dancing of white youth carried away by a hysterical frenzy. Medical men everywhere should be conscious of this "upsurge of the savage" within us . . . *Multa paucis!* and Merry Christmas to All!

There are two things that the traffic violator fears above all else—jail sentences and license suspension.—Col. C. W. Woodson, Jr., Superintendent, Virginia State Police.

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ASSOCIATION NOTES

Timely items of general interest are accepted for these columns. Deadline is 3rd of month preceding month of issue.

Department of Defense

Ass't Secretary (Health & Medical)—HON. FRANK B. BERRY, M.D.

Deputy Ass't Sec'y—HON. EDW. H. CUSHING, M.D.

SELECTIVE SERVICE CALL

The Department of Defense has requested the Selective Service System to provide 17,000 men for assignment to the Army in December. The Navy, Marine Corps and Air Force have not requested any men for December.

STRENGTH ARMED FORCES

On August 31 the strength of our Armed Forces was 2,797,960: Army 1,013,508; Navy 674,798, Marine Corps 200,854; Air Force 908,800.

INTERAGENCY INSTITUTE MEETING

The Thirteenth Interagency Institute for Federal Hospital Administrators was held at the Walter Reed Army Medical Center October 22-Nov. 17. Col. Frederick H. Gibbs, MSC, USA, the Institute Director, stated that the objective of the program was to offer senior federal hospital officials training in: how to provide better patient care through better administration, skills needed to meet day-to-day problems, and the latest management methods and techniques consistent with new trends in medical care administration.

DENTAL CHIEF RETIRES

Maj. Gen. Oscar P. Snyder, DC, Chief of the Army Dental Corps retired on November 30 after 40 years of service in the Dental Corps. General Snyder has accepted a position with the Ohio State University, his alma mater.

Army

Surgeon General—MAJ. GEN. SILAS B. HAYS

Deputy Surg. Gen.—MAJ. GEN. JAMES P. COONEY

NEW CHIEF—DENTAL CORPS

Maj. Gen. James M. Epperly, DC, succeeded Maj. Gen. Oscar Snyder as Chief of the Army Dental Corps on November 30, at which time General Snyder retired from the service.

General Epperly is a native of Missouri and was graduated from St. Louis University with the degree of doctor of dentistry in 1923. Shortly after graduation he entered the Army and was assigned to Fitzsimons Army Hospital as an intern. One of his important assignments was to establish a dental service at Camp Breckinridge, Ky., in 1942, where he became Chief of the Dental Service. He later moved to Europe with the Ninth Army. He served in the Office of the Surgeon General for some years after World War II. In 1953 while on temporary duty with the Greek Army he was promoted to brigadier general.

GEN. RAVDIN RETIRES

Maj. Gen. I. S. Ravdin, MC, USAR, was retired from the Army Reserve on October 30. He has the distinction of being the only medical major general in the Army Reserve.

During World War II he was the commanding officer of the 20th General Hospital (University of Pennsylvania personnel) stationed in India.

General Ravdin is the John Rhea Barton Professor of Surgery, University of Pennsylvania, Philadelphia, and Director of the Harrison Department of Surgical Research there. He is Chairman of the Board of Regents of the American College of Surgeons.

AMS ASSIGNMENT

Lt. Col. Dwight H. Sloan has assumed command of the Army Medical Service School's Officer Student Detachment. Before entering the military service in 1941 Colonel Sloan played professional football with the Chicago Cardinals and later with the Detroit Lions.

VETERINARY OFFICERS GRADUATE

The Walter Reed Army Institute of Research recently conducted a six-week course in the examination of food for radioactive contamination. The director of the course, Col. Maurice W. Hale, VC, presented certificates to Lt. Cols. Leslie Murphy, VC; Floyd C. Votaw, VC, and Maj. James M. Shively, VC.

The course consisted of work in mathematics, nuclear physics, radiological safety, instrumentation, laboratory design, radio-assay procedures, evaluation of radioactive contamination, and environmental survey methods.

HONORED

Lt. Col. Robert B. Lindberg, Walter Reed Army Medical Center, has been elected president of the Washington branch of the Society of American Bacteriologists. He is the first Medical Service Corps officer to be so honored, and the first Army officer to hold the office since 1932.

TEMPORARY COLONEL RANK FOR NURSES

The selection of Lt. Col. Pauline Kirby, ANC, Walter Reed Army Hospital, and Lt. Col. Agnes A. Maley, ANC, Chief Nurse of Sixth Army, marks a new era for the Army Nurse Corps. The only nurse holding the rank of colonel in the Army Nurse Corps previously was the Chief of the Corps. This position is filled at the present time by Col. Inez Haynes.

BROCHURE AVAILABLE

Fact About The Army Nurse Corps has been issued in a new edition. Copies of this brochure may be obtained from the various Army Headquarters.

NURSE ANESTHETISTS MEET

A group of nurse anesthetists composed of active duty and inactive duty met at Walter Reed Army Medical Center from November 12 to 17 for the first national postgraduate workshop in anesthesiology.

They were welcomed by Maj. Gen. Leonard D. Heaton, Commanding General of the Center; Col. Inez Haynes, Chief, Army Nurse Corps; Col. Richard P. Mason, Director, Walter Reed Army Institute of Research; Col. Harvey C. Slocum, Chief of the Anesthesia and Operative Service, Walter Reed Army Hospital, and Col. Robert T. Gants, Chief of the Hospital's Department of Surgery. Lecturers were both military and civilian.

DELEGATE TO ITALY

Colonel Roland I. Pritikin, MC, USAR, of Rockford, Illinois, represented the Association of Military Surgeons of the United States at the VIII International Congress of the History of Science which was held in Florence, Italy in September.

Dr. Pritikin delivered two papers: *History of treatment of congenital and hereditary eye defects,* and *History of the introduction to the management of mass eye casualities resulting from radiation trauma.*

Navy

Surgeon General—REAR ADM. BARTHOLOMEW W. HOGAN

Deputy Surgeon General—REAR ADMIRAL BRUCE E. BRADLEY

ACCEPTS POSITION WITH UNIVERSITY

Rear Admiral Lamont Pugh, retired, formerly Surgeon General of the Navy, has accepted a position with George Washington University, Washington, D.C. where he will be associated in professional activities with the student body.

ELECTED TO GOVERNING BOARD

Cdr. Kenneth L. Knight, MSC, has been elected as a representative to serve on the Governing Board of the Entomological Society of America. He is the first member of the Navy Medical Department on active duty to be so honored.

PHILADELPHIA ASSIGNMENT

Captain Roland A. Bosee, MSC, until recently Test Director, Naval Parachute Unit, El Centro, Calif., has reported to Naval Air Material Center, Phila. Captain Bosee will function as Assistant Superintendent and Project Co-ordinator at the Air Crew Equipment Laboratory at the Center. The laboratory is involved in the applied and fundamental research associated with Human Factors in Naval Aviation as well as the development, test, and evaluation of flight safety and survival equipment.

Air Force

Surgeon General—MAJ. GEN. DAN C. OGLE
Deputy Surg. Gen.—MAJ. GEN. W. H. POWELL, JR.

PROMOTIONS

The following officers of the Air Force Medical Service have recently been promoted in flag grade: Brig. Gen. Otis O. Benson, Jr., to Major General; Brig. Gen. Olin F. McIlnay to Major General; Colonel Victor A. Byrnes to Brigadier General.

Public Health Service

Surgeon General—LEROY E. BURNEY, M.D.
Deputy Surg. Gen.—W. PALMER DEARING, M.D.

DR. CRONIN PROMOTED

Dr. John Cronin, formerly Chief of the Hospital and Medical Survey and Construction Program of the Public Health Service, was promoted as of November 1 to Chief of the Bureau of Medical Services. His title is Assistant Surgeon General with the rank of major general.

Dr. Cronin is a native of Ohio and received his medical degree from the University of Cincinnati in 1932. He entered the Public Health Service after graduation and has filled many important posts in that Service.

In this new position Dr. Cronin will administer the Public Health Service hospitals, the Hospital and Medical Facilities Survey and Construction Program, the Indian Health Program, the Foreign Quarantine Program, and the Dental and Nursing Resources activities.

Dr. Cronin is author of many articles on psychiatry, occupational health, and hospital administration. He is a vice-president of the Association of Military Surgeons, and holds the Founders Medal of the Association.

ASS'T CHIEF BMS

Dr. Kenneth R. Nelson assumed his duties as Associate Chief of the Bureau of Medical Services Public Health Service in Washington, on November 19. He is a native of Minnesota and a graduate of the University of Minnesota. He was commissioned in the Regular Corps of the Public Health Service in 1929.

CLINICAL CENTER DIRECTOR

Dr. Jack Masur became Director of the Public Health Clinical Center at the National Institutes of Health, Bethesda, Maryland, on November 1.

The Clinical Center is the largest facility of its kind in the world for research in the major diseases of the day. It is expected that the present facilities will be expanded to permit even greater research in neurological and cardiac surgery. Since its opening in

July 1953 almost 5,000 patients from all over the United States have been admitted to the Center for study.

ASSIGNED SAN FRANCISCO HOSPITAL

Dr. Donald W. Patrick, has been appointed medical officer in charge of the Public Health Service Hospital at San Francisco. Dr. Patrick is a native of Colorado and received his medical degree from the University of Colorado. He was commissioned in the Regular Corps of the Public Health Service in 1931.

HEADS EDUCATIONAL PROGRAM

Senior Nurse Officer Mary Jenney was recently appointed to head the first Federal program to further education of qualified graduate nurses in supervision, teaching, and administration. She has the title of Chief Nurse Consultant to the new Professional Nurse Traineeship Program.

Miss Jenney joined the Public Health Service in 1942. She holds an M.A. degree from Teachers College, Columbia University.

IN CHARGE OF LEPROSARIUM

Dr. Edgar B. Johnwick was recently appointed Medical Officer in Charge of the National Leprosarium, Carville, Louisiana. He suceeds Dr. Eddie M. Gordon, who was appointed as Chief Quarantine Officer at Fort Monroe, Virginia.

The leprosarium at Carville is the only institution in the United States devoted exclusively to the treatment and rehabilitation of persons with leprosy.

ASSIGNED TO HEADQUARTERS

Medical Director T. H. Ainsworth, formerly Chief of Neuropsychiatric Services at the Public Health Service Hospital in Fort Worth, Texas, is now on duty in Washington as Commissioned Reserve Coordinator. He is responsible for developing and coordinating policies affecting the recruitment and training of officers of the Public Health Service's Commissioned Reserve.

PSYCHOPHARMACOLOGY SERVICE CENTER

A new unit to assist in the development of scientifically sound research programs on tranquilizing and other drugs used in the treatment of medical illness has been established at the National Institutes of Health, Bethesda, Md.

Dr. Jonathan O. Cole has been appointed psychiatrist in charge of the Psychopharmacology Center which is a part of the National Institute of Mental Health.

CENTER FOR AGING RESEARCH

The establishment of a Center for Aging Research at the National Institutes of Health, Bethesda, Maryland, was recently announced by Dr. Leroy E. Burney, Surgeon General of the Public Health Service. The Director of the Center, Dr. G. Halsey Hunt, assumed duties on November 19.

Marion B. Folsom, Secretary of Health, Education, and Welfare, said: ". . . It is important that more be done to help solve these problems—to help older persons to greater independence and self-sufficiency and a life more free of disease and disability."

CEREBRAL PALSY RESEARCH

More than $700,000 for a four-year investigation into the causes of cerebral palsy and mental retardation have been made to Yale University School of Medicine and to Brown University by the Public Health Service.

Dr. Burney, Surgeon General, has announced that this is the beginning of a large coordinated research program, which, over the next 10 to 20 years, will attempt to identify factors responsible for such disorders as cerebral palsy, mental retardation, blindness, and deafness.

FLUORIDATION OF WATER

Recent tabulation by the Public Health Service shows that fluoridated drinking water is now furnished to one-fourth of the people using public water supplies. About 1,400 cities and towns with a total population of over 30 million people were using fluori-

dation at the end of September 1956.

This health measure is designed to combat a serious dental condition in the United States, that of tooth decay.

MICROBIOLOGISTS

Examinations for scientists in the field of microbiology can be taken for Civil Service employment with the Public Health Service's Communicable Disease Center, Atlanta, Ga., or Center activities throughout the country.

Application forms and additional information may be obtained from the Executive Secretary, Board of U.S. Civil Service Examiners, Communicable Disease Center, Atlanta, Ga.

RESERVE COMPONENT AUGMENTED

The appointment of 117 physicians, nurses, dentists, sanitary engineers, veterinarians, scientists, therapists and pharmacists to the inactive reserve component of the commissioned officer corps has augmented that body recently.

The Commissioned Corps of the Public Health Service was established by the Treasury Department in 1873 and recognized by Act of Congress in 1889. Its officers are grouped into the following categories: Medical, Dental, Nurse, Sanitary Engineer, Scientist, Sanitarian, Veterinarian, Pharmacist, Dietitian, and Therapist. The grades of Public Health Service are equivalent to those held by officers in the Army and Navy, as follows:

Public Health Service	Army	Navy
Junior Assistant	2d Lieutenant	Ensign
Assistant	1st Lieutenant	Lieutenant (jg)
Senior Assistant	Captain	Lieutenant
Full Grade (Officer)	Major	Lt. Commander
Senior	Lt. Colonel	Commander
Director	Colonel	Captain

PREPAID DENTAL CARE

A conference recently held by the Public Health Service on prepaid dental care brought out that only 17 percent of members of families with annual incomes below $3,000 seek dental care in the course of a year, compared with 56 percent of family members with incomes above $7,500.

The conference proposed that research be designed to facilitate the development of effective prepaid dental care programs.

ALDOSTERONE

Edema seems to be associated with an excess amount of aldosterone, an adrenal gland hormone which has to do with salt and water regulation in the body.

The work of Drs. Wilmot C. Ball, Jr., James O. Davis, Maurice M. Pechet, and M. Jay Goodkind, National Institutes of Health, Bethesda, Maryland, suggested that overproduction by the adrenals is largely responsible for the excess aldosterone. Excess amounts of this hormone have been found in patients with edema.

Veterans Administration

Chief Medical Director—WILLIAM S. MIDDLETON, M.D.

Deputy Chief Med. Dir.—R. A. WOLFORD, M.D.

ASSUMES OFFICE IN ACPMR

Dr. A. B. C. Knudson, Director of Physical Medicine and Rehabilitation Service of the Veterans Administration has assumed the office of president of the American Congress of Physical Medicine and Rehabilitation. He is the first Veterans Administration doctor to hold that office.

Dr. Knudson held teaching appointments in physical medicine and rehabilitation at the George Washington University School of Medicine and the Georgetown University School of Medicine in Washington, D.C.

POSITION WITH ARMY SGO

Chief Nurse Martha McCrary, Veterans Administration Hospital, Brecksville, Ohio, has been appointed Mobilization Designee for the Nursing Division, Office of the Surgeon General of the Army.

Lt. Col. McCrary, in the event of mobilization, would act as liaison officer between national and state nursing organizations and the Army Nurse Corps. She entered the Army Nurse Corps in World War II, served overseas in Europe and was demobilized at the close of hostilities. In 1952 she received her M.A. from Western Reserve University. Her knowledge of both civilian and military requirements would be of special benefit should there be a mobilization.

CHIEF CLINICAL PSYCHOLOGY

H. Max Houtchens, Ph.D., has assumed duties as Chief of the Veterans Administration Clinical Psychology Division at the Central Office in Washington. He succeeded Dr. Hildreth who has taken a position with the Public Health Service.

Dr. Houtchens is a native of Washington State. He received his doctor's degree from the University of Iowa in 1937. During World War he served in the Asiatic-Pacific Theater.

HONORED

Miss Dorothy D. Rouse, who was Chief of Occupational Therapy in the Physical Medicine and Rehabilitation Service of the Veterans Administration was recently awarded the "Award of Merit" by the American Occupational Therapy Association.

Miss Rouse is now retired and claims Kentucky as her home.

BOOKLETS AVAILABLE

The following Fact Sheets are available free from Regional Offices of the Veterans Administration:

IS-2, Fact Sheet for Peacetime Veterans and Six-month Enlistees,
IS-3, Fact Sheet for Korean Conflict Period,
IS-4, World War II Fact Sheet,
IS-5, World War I Fact Sheet.

STATISTICS

As of August 31, 1956 there were 22,464,000 veterans in civil life. The average daily patient load under hospital care was 113,584; visitors for medical care in outpatient facilities, 120,659 (exclusive of compensation and pension examinations).

Miscellaneous

PHARMACEUTICAL MFG. AWARD

Dr. William Gordon Lennox of Boston will receive the 1956 Award of the American Pharmaceutical Manufacturers' Association at the Waldorf-Astoria Hotel, New York City, December 11.

Dr. Lennox has long been a leader in the field of neurological research. He and his colleagues are generally credited with the introduction of agents useful against epilepsy.

SCHERING AWARD CONTEST

Medical students in the United States and Canada are invited to participate in the 1957 Schering Award Contest. Subjects for 1957 are: (1) Incidence of Various Types of Cardiovascular Diseases by Age Group in the Male and the Female (2) Recent Trends in Corticosteroid Therapy for Ocular Disorders (3) Recent Advances in the Biochemical Aspects and Treatment of Mental Disease.

Entry forms must be submitted by January 1, 1957. A total of $4,500 will be distributed in the form of prizes. Address to be used is: Schering Award Committee, Bloomfield, N.J.

ORAL INSULIN RESEARCH DRUG

Carbutamide, a sulfonamide derivative which controls many cases of diabetes when given by mouth has had a fifteen-month clinical trial by Eli Lilly and Company. That company has announced the suspension of the trial.

Dr. Kenneth G. Kohlstaedt, director of the clinical research division has stated that research will proceed in the field of oral drugs for the control of diabetes. While there have been no untoward reactions in 95% of

the cases in which the sulfonamide derivative was used, yet there was some untoward effects in 5% of the cases. It was these untoward reactions that led Eli Lilly and Company to discontinue the clinical investigation with carbutamide.

RAUWOLFIA REFERENCES

Rauwolfia and Its Alkaloids is a compilation of approximately 800 references from several hundred domestic and foreign journals. Copies of this booklet may be obtained free from S. B. Penick & Company, 50 Church St., New York 8, N.Y.

OPPORTUNITIES FOR NURSES

Foreign assignments with the State Department are offered to nurses with a degree in public health and a year's experience in some generalized public health program. For further information contact Miss Evelyn E. Weigold, Nurse Consultant, Department of State, Washington 25, D.C.

NURSES CONGRESS AND TOUR

Following the International Council of Nurses Congress in Rome in the spring of 1957 there will be an escorted travel course known as *Comparative Nursing and Nursing Education.*

The tour June 2-July 21 is being planned with representatives of national nursing associations in cooperation with Teachers College, Columbia University.

Further information may be obtained from the Division of Nursing Education, Teachers College, Columbia University, 525 West 120th St., New York 27.

AERO MEDICAL MEETING

The 28th annual meeting of the Aero Medical Association will be held at the Shirley Savoy Hotel, Denver, Colorado, May 6-8, 1957 under the presidency of Dr. Jan H. Tillisch, Rochester, Minn., Medical Director of the Northwest Airlines. The theme of the meeting will be "Medicine in the Jet-atomic age of Flight."

Dr. Nolie Mumey is general chairman of the meeting. His address is: 1612 Tremont Place, Denver 2, Colo.

Those desiring to participate in the scientific sessions should contact Dr. E. J. Baldes, Mayo Clinic, Rochester, Minn.

CONGRESS OF PHARMACY AND BIOCHEMISTRY

The Fourth Pan-American Congress of Pharmacy & Biochemistry will be held at the Mayflower Hotel, Washington, D.C., November 3-9, 1957. The theme for the congress will be *Planning the Advancement of Pharmacy throughout the Americas.*

Mr. Robert A. Hardt is Chairman, Organizing Committee (address: Roche Park, Nutley 10, N.J.); and Mr. George B. Griffenhagen is Executive Secretary (address: c/o Smithsonian Institution, Washington, D.C.).

POSTGRADUATE COURSES

Postgraduate Courses on Diseases of the Chest will be given at Vanderbilt University, Nashville, Tenn., Jan. 14-18; Mark Hopkins Hotel, San Francisco, Feb. 25-Mar. 1; and Bellevue-Stratford Hotel, Philadelphia, Apr. 1-5. For further information address the Executive Director, American College of Chest Physicians, 112 East Chestnut St., Chicago 11, Ill.

Practicing physicians in the New York area can spend each Thursday of the first three months of 1957 participating in the staff discussions of cases at the New York University Post-Graduate Medical School. These cases will be of a general nature and will be chosen for their instructional value. Information about this course and other courses can be obtained from The Dean, New York Post-Graduate Medical School, 550 First Avenue, New York 16, N.Y.

EXHIBITION OF MEDICAL ARTS

The Third International Exhibition of Medical Arts, sponsored by the *Minerva Medica* Press Group and the Italian Medical Association will be held in Turin, Italy, June 1-9, 1957. At the same time there will be Conferences on Medicine, Surgery, and Pharmaceutical technique.

BOOKLET AVAILABLE

Pension and Retirement Rights for Veterans and Military Personnel is a 52 page booklet available for $1.00 from Col. S. F. Tillman, Editor, 3212 Cummings Lane, Chevy Chase 15, Md. This booklet is full of information and is well worth the dollar.

FIRE-SAFETY BROCHURE

Fire-safety for Hospitals is a brochure for administrators and hospital officials to help them in spotting fire hazards. The brochure is free and can be obtained by writing to the Engineering Dep't., National Board of Fire Underwriters, 85 John St., New York 38.

MOTION PICTURE WORKSHOP

Kansas City, Missouri, will be the site of the first medical motion picture workshop on February 4, 5, and 6, 1957. The workshop is for medical film producers and medical audiovisual personnel and will be presented on the sound stages of the Calvin Company, 1105 Truman Road, Kansas City. Authorities in this field will be present.

FILM AVAILABLE

Pediatric Anesthesiology is the title of a new 16 mm. color, sound film (running time —20 min.) which is available for use by medical groups. Address E. R. Squibb Company, 745 Fifth Ave., New York 22, N.Y.

SURGICAL DRESSING'S STANDARDS

A revision of *Simplified Practice Recommendation R133-49,* Surgical Dressings, has been submitted to producers, distributors, users and others concerned for revision and acceptance.

This revision was proposed by the Committee on Purchasing, Simplification and Standardization of the American Hospital Association. It was developed cooperatively by representatives of the association and manufacturers of dressings and has their unanimous approval.

The recommendation establishes finished sizes, ply, construction of gauze, number per shipping case, and other details of six classes of ready-made dressings.

Mimeographed copies of the proposed revision may be obtained from the Commodity Services Division, Office of Technical Services, U. S. Department of Commerce, Washington 25, D.C.

Diagnostic Biliary Drainage—A practical Handbook for Physician and Technician is a limited edition book the author of which is Col. Augustus A. Hall, MC, USA, stationed at the Antiaircraft Artillery and Guided Missile Center, Fort Bliss, Texas. This book which is said to be the first book confined to this subject in the English language is an illustrated work in detail. There is a foreword by Dr. B. B. Vincent Lyon.

Honor Roll

Since the publication of our last list, the following sponsored one or more applicants for membership in the Association:

Col. T. C. Bedwell, Jr., USAF (MC)
Capt. George P. Blundell, MC, USA
LCdr. Charles H. Bondurant (MC), USNR
Capt. Leon A. Bowden, MSC, Ill. NG
Rear Adm. Thomas F. Cooper (MC), USN
Capt. Paul E. Cevey, MSC, USA
Capt. John S. Cowan (MC), USN
Med. Dir. John C. Cutler, USPHS
Rear Adm. W. Dana (MC), USN
Col. Seth C. Dildine, VC, USA
Maj. Gen. Alvin L. Gorby, MC, USA
I. Hanensen, M.D.
Lt. Col. Frederick F. Krauskopf, MC, USA
Capt. Lucille Howard, ANC
Dr. Thomas W. James
Alphonse McMahon, M.D.
LCdr. Jose Ponce Maranhao, MC, Brazilian Navy
Dr. Knox E. Miller
Lt. Col. Alexander Prager, MSC, USAR
Col. Arthur J. Redland, MC, USA
Col. William S. Smith, MC, USA
Dr. Moacyr Mirabeau de Carvalho Soares
Miss Frances E. Taylor
Lt. Col. Joseph Whitehead, VC, USA

Additional Insurance Coverage for Our Members

MANY of our members have written to the National Headquarters and to our Group Insurance Administration office in Philadelphia, suggesting that our present benefits be expanded to include two very important new coverages that have become available during the past year. Your officers desire at all times to provide the maximum in services requested by the members. They made a study of these two new plans and then decided to let the members vote on whether or not the new coverages should be made available to all who wished this added protection. When the vote was tabulated, over 93% were in favor of this additional service for the members. The necessary steps were immediately taken and it is with a great deal of pleasure we announce your Association's *Major Medical* and also *Accidental Death and Dismemberment* Group Insurance Plans. These plans are available to all members in civilian life and, in addition, the Major Medical is available to the wife and families of such members.

Our Major Medical Plan is designed to take away the financial dread of an expensive disability, accident or sickness, that may be suffered by a member or one of the members of his family. The general provisions are that the first $500.00 of such a disability are not paid, but 75% of all expenses of any nature whatsoever above that amount will be paid until a total of $5,000.00 has been paid for each and every disability. The premium is surprisingly low. To secure this protection each member must submit an application. The acceptance of the application will be based upon the past medical history of the family. We need 100 applications to put this plan in force. If you need this type of protection, please get your application in the mail as soon as you receive it.

The second new plan is one that provides Accidental Death and Dismemberment benefits up to a maximum of $200,000.00. The premium is only $1.10 a thousand and is a world wide in coverage. It even grants protection for all aircraft flights except when a member of the crew. This extremely broad coverage and very low premium make this plan doubly attractive to all members desiring this benefit.

One very important point to keep in mind is that you do not need to be a participant in our Group Insurance Plan to secure these new benefits. Either one of the plans or both of them may be secured. Just send in your application or applications for the desired benefits and, if they are approved by the Educators Mutual Insurance Company, your certificate will be sent to you as soon as each plan qualifies.

If you do not, for some reason, receive your booklets explaining these plans and your applications, write to the Association Service Office at 1500 Walnut Street, Philadelphia 2, Pennsylvania, and they will be sent to you. Also, address any questions you may have about the plans to that office. All Insurance information is sent out from the Philadelphia office.

Here is your opportunity to secure added insurance benefits at very low, attractive premiums. Send in your applications immediately.

Books *Books*

A BOOK will make an ideal gift for Christmas.

One of the services offered by your Association is the book service. All you have to do is to list the books wanted with the name of the author and publisher. Send us the list and we will place the order with the individual publisher. That will save you time.

The books listed in the following pages may help you in your selection. You are not limited to these in your selection, of course. See former issues of *Military Medicine* for other books. You may even have one in mind that is not listed.

Books *Books*

BOOK REVIEWS

MENTAL HEALTH PLANNING FOR SOCIAL ACTION. By George S. Stevenson, M.D., Sc.D., Consultant for The National Association for Mental Health, Inc. 358 pages. McGraw-Hill Book Company, Inc., New York, Toronto, London. 1956. Price $6.50.

Dr. George S. Stevenson has spent the entire thirty-seven years of his professional career in neuropsychiatry. He graduated from Johns Hopkins in 1919. Most of this time he has been a leader in the field of mental hygiene. He addresses this book to teachers and practitioners in the field of mental health and states in the preface: "The scheme is to present some suggestions on program planning, to follow this successively with chapters on program content as it relates to the restoration, the protection, and the elevation of mental health, and finally, to present suggestions bearing on program execution."

This book is divided into five parts. In the first part he discusses the basic considerations of program planning, meaning and range of mental hygiene. In the second part he discusses the facilities for the restoration of mental health. He discusses in some detail state and local psychiatric services, including the private practice of psychiatry. In the third section he discusses mental hygiene in its various ramifications, such as mental hygiene in public health, the home, the school, and the church. In the fifth section he goes into the program execution and the relation of mental hygiene to world mental health. He sums up the volume with a list of visual aids.

This is a source book which will be of primary interest to those in the field of mental hygiene. It is not restricted to physicians, but would be of value to teachers, ministers, social workers, and psychologists. The book is well indexed for ready reference. Each chapter ends with a list of references, and although a few of the chapters have a summary, this is not so throughout the book. A couple of the chapters are unnecessarily brief, especially that dealing with the "Armed Forces," and that having to do with "Mental Health and Recreation."

Not all would agree with Margaret Mead, when she says in the Foreword to this book by George S. Stevenson: "Here speaks, as quietly as he has lived, the man who has done more than anyone living to advance the cause of mental health in the United States."

CDR. JAMES L. MCCARTNEY, MC, USNR (RET.)

PULMONARY CARCINOMA-PATHOGENESIS, DIAGNOSIS, AND TREATMENT. Edited by Edgar Mayer, M.D., Clinical Professor of Industrial Medicine, New York University Post-Graduate School; and Herbert C. Maier, M.D., Ass't Clinical Professor of Surgery, College of Physicians and Surgeons, Columbia University. 18 contributors. 540 pages, illustrated. New York University Press 1956. Distributed by J. B. Lippincott Co., Philadelphia. In Great Britain by Pitman Medical Publishing Co., Ltd., London. Price $15.00.

The problem of pulmonary cancer is forcefully presented in Dr. Charles S. Cameron's foreword in which he points out that the increase in bronchogenic cancer in the span of one generation has been called "the most violent phenomenon in the history of cancer" and "a pandemic disease in the United States and in the industrialized countries of Europe." Age-standardized rates show an increase of death rate from cancer in general, exclusive of the lung, amounting to 2 per cent in the past twenty years, while during the same period, death rates from cancer of the lung have risen by over 250 per cent.

Possible causes of lung cancer are discussed in a chapter by Dr. William E. Smith on the "Biology of Cancer" and in a chapter on "Environmental and Occupational Factors" by Drs. E. Cuyler Hammond and Willard Machle. Dr. Cornelius P. Rhoads has a short chapter on cancer research, emphasizing the chemotherapeutic approach and Dr. Averill A. Liebow presents an excellent coverage of the pathology and with Dr. George N. Papanicolaou of the cytologic diagnosis. Drs. Edgar Mayer, Israel Rappaport and John LaDue discuss the clinical

picture, diagnosis and medical management, and roentgen diagnosis is presented by Dr. Robert S. Sherman. Dr. Maier describes bronchoscopic examination and surgical treatment. Radiotherapy and the use of radioisotopes are covered by Drs. Bernard Roswit and James J. Nickson and chemotherapy is briefly discussed by Dr. David A. Karnofsky. No effective chemotherapeutic agents are yet at hand. Dr. Arthur M. Sutherland covers the psychological problems faced by the cancer patient and his physician.

The various authors present their material well and coverage of the problem of lung cancer is complete. The book is intended for the practicing physician and should prove of practical interest to any physician who faces the problem of recognizing lung cancer early enough to be able to expect favorable results from treatment by the surgeon.

Dr. Cameron makes a plea for the support by the physician of the patient with incurable cancer. Quoting again from his foreword "Never do the ethics of medical practice permit the doctor to say to the patient, 'There is nothing more I can do.' He may, if in his judgment it is best, tell his patient he cannot get well, but not that he is without some resource. . . . Usually they can adjust to the fatal prospect, but they cannot face abandonment."

COL. HUGH R. GILMORE, JR., MC, USA

THE NEUROSES IN CLINICAL PRACTICE. By Henry P. Laughlin, M.D., Ass't. Clinical Professor of Psychiatry, George Washington University School of Medicine; Consultant in Psychiatry, Walter Reed Army Medical Center. 802 pages. W. B. Saunders Company, Philadelphia and London. 1956. Price $12.50.

Dr. Laughlin has based a presentation of the neuroses on the experiences of his own distinguished practice. The work is compendial; almost every aspect of this group of illnesses discussed. Each chapter is followed by a selected bibliography, which reflects the many contributions the author himself has made to psychiatric literature.

In addition to 688 pages of text there are 52 pages of index, and a 51 page glossary of terms, from the most technical to such simpler examples as "wanderlust," "society," and "wet dream." The table of contents, including a guide to case summaries (8 pages) and a guide to text tables (2 pages), occupies 42 pages.

Perhaps in books which undertake a complete coverage of a subject it is unavoidable that some over-organization of chapters and pages, as a guard against omission of data, diffuses the narrative stream.

Capitalization of key words and phrases, symptoms, and diagnostic terms, used presumably to aid the student's memory or "make real" such constructs as "Total Reaction to Crisis," or the "Law of Universal Affect" might be better omitted.

CDR. T. H. LEWIS, MC, USN

DISTURBANCES OF FLUID BALANCE, CLINICAL RECOGNITION AND MANAGEMENT OF. 2nd Ed. By John H. Bland, M.D., Associate Professor of Medicine, University of Vermont College of Medicine. 522 pages, illustrated. W. B. Saunders Company, Philadelphia and London. 1956. Price $11.50.

Doctor Bland has compiled a most useful and practical book on the metabolism of water and electrolytes. He has drawn freely on the works of Doctors Darrow, Gamble, Elkinton, Thorn, Newburgh, Elman and many others, thus condensing and simplifying a world of material into a readily available reference volume.

Throughout this book, he clearly simplifies all problems to *concentration* and *distribution of substances.* Furthermore, the number of substances are categorized into those regulating volume and osmotic pressure, and those controlling and regulating hydrogen ion concentration. Although the greatest emphasis is placed on the simple processes of filtration and diffusion, adequate reference is made to the newer concepts of active cellular enzymatic and metabolic energy-consuming and energy-yielding processes across the cell membrane.

One of the greatest contributions of this book is the emphasis on the interpretation of clinical signs and symptoms at the bedside by the careful observer. This is of the utmost importance in view of the fairly general unavailability, inaccuracy, and erroneously done laboratory work found in so many localities today. Laboratory work has been and always will be supportive and subordinate to clinical appraisal, as far as I am concerned.

The first few chapters are devoted to the basic physiologic considerations of body water, electrolytes and hydrogen ion control. The general picture of pure and mixed sodium and water depletion clinical concepts of alkalosis and acidosis, evaluation of

edema, and available parenteral solutions are then discussed. Each organ system is taken up in a separate chapter such as: congestive failure, diseases of the liver, pulmonary disease, renal disease, diabetes mellitus, adrenal insufficiency and head injury and central nervous system disease. Special chapters are devoted to special situations such as: pediatric variants; changes peculiar to the aged; surgical metabolism; effects of heat, cold, irradiation; and steroid therapy effects. The final chapter is devoted entirely to normal and abnormal potassium and magnesium metabolism which appropriately emphasizes this important phase.

One of the especial noteworthy features of this book are the excellent and numerous diagrams which simplify and clarify this complicated subject.

In conclusion, it should be stressed that this subject is fundamental to each and every patient with disease in every specialty. It should be part and parcel of the knowledge of every doctor who is brash enough to treat seriously ill patients.

CAPT. L. J. POPE, MC, USN

1956 MEDICAL PROGRESS. A Review of Medical Advances during 1955. Morris Fishbein, M.D., Editor. 389 pages. The Blakiston Division, McGraw-Hill Book Company, Inc., New York, Toronto, London. 1956. Price $5.50.

This is the fourth volume of an annual series designed to review, collate and correlate the advances made in medicine during the preceding year. These advances have resulted from fundamental research in the basic sciences of physics, chemistry, anatomy, physiology, pharmacology and pathology or have been elaborated by conjoint efforts in clinical research at the hospital bedside, in the office, the home or the dispensary. In any event, the integration of these advances is dependent upon careful scrutiny and critical appraisal before release and widespread application in the field.

Twenty-one subjects are discussed by twenty-nine reviewers, each an outstanding contributor to and authority in his specialty. The topics include recent advances in medicine, allergy, rheumatic diseases, diabetes, gynecology, gastroenterology, laboratory procedures, general surgery, ophthalmology, poliomyelitis vaccine, neurology, physical medicine and rehabilitation, dermatology, nutrition, cardiovascular disease, psychiatry, neuropsychiatry, endocrinology, ear, nose and throat, orthopedic surgery and new drugs.

This valuable volume distills the vast number of reports of clinical and laboratory trials of new procedures, new approaches and new therapeutic agents during the past year and summarizes reliable advances (and the reasons therefor) in twenty areas of rapidly progressing knowledge. Special emphasis is placed on the present status of the Salk vaccine and on the amazing contribution of the "ataractic" agents* or tranquilizing substances in the therapy and control of various mental disorders and in borderline anxiety syndromes and tension states, including hypertension. These ataractic tranquilizers, which presumably accelerate serotonin metabolism in the brain, are rapidly replacing electric shock and insulin—coma therapy in the treatment of various emotional disturbances.

The "story" of the development of poliomyelitis vaccine is a fascinating monograph and this alone is well worth the modest price of admission for this book which not only is of current practical value but also will serve (in the future) as a historical marker to those interested in the annals of man's constant, yet encouraging, battle against the forces of pain and suffering and disease.

CAPT. C. C. SHAW, MC, USN

THE OFFICE ASSISTANT IN MEDICAL OR DENTAL PRACTICE. By Portia M. Federick, Instructor, Medical Office Assisting, Long Beach City College; and Carol Towner, Executive Assistant, Dep't of Public Relations, American Medical Association. 351 pages, illustrated. W. B. Saunders Company, Philadelphia and London. 1956. Price $4.75.

It is no longer necessary to spend many hours teaching your new office assistant your office routine. All you have to do is to hand her this easy to read volume and your office will be run efficiently from bookkeeping to sterilization of instruments.

The authors have done an excellent job with a difficult subject. It doesn't seem difficult when one has the advantage of this book. All phases of office work are covered. The topics discussed are: Medical ethics and medico-legal affairs; the right kind of reception; telephone technique; appointments; handling the mail; medical and dental records; filing of records; professional fees;

* "Ataraxis"—from the Greek, "meaning freedom from confusion"; hence, "peace of mind."

extending credit and making payment arrangements; billing and collecting procedures; bookkeeping; banking; accident and health insurance; physical examinations and office assisting techniques; sterilization techniques; care of instruments; pharmacology and preparation of medications; administration of medications; injections; immunology; physical therapy; housekeeping; supplies; library and editorial duties; professional and health organizations; daily plan of office routine.

This book is highly recommended.

PHILIP H. SMITH, M.D.

IN THE DOCTOR'S OFFICE. 2nd Ed. By Esther Jane Parsons. 326 pages. J. B. Lippincott Company, Philadelphia and Montreal. 1956. Price $3.95.

This text is a complete and detailed guide for medical assistants, comprehensively written. The material covered in this book could well be studied, both by the graduate registered nurse and the lay person working in the doctor's office.

A large portion of the book covers techniques, procedures, and equipment care and arrangement which would be familiar to the professional nurse, but she could also benefit by the adaptation of these technical aspects of the job to the doctor's office.

The basic principles of emergency treatment, draping of patients, and bandaging are written clearly for application by the nonprofessional assistant.

Business records discussed include income tax considerations, social security, withholding tax, statements and receipts and inventories. Professional records cover the patient's history, record of treatment, preparation of the medical manuscript and the appointment book.

A brief discussion is made of appropriate types of stationery, letter style, preparation of papers and lectures, preparation of illustrations, etc.

The methods for care and cleaning of typewriters and sterilizers as prescribed by manufactures have even been included.

Illustrations are well done and adequate.

The book, *In the Doctor's Office*, verifies the statement that it has been written after many years of practical experience and research which include surveys of doctors eager to offer suggestions of how the assistants can best serve them and their clientele.

The Special Groups Section of the American Nurses' Association has published for its members a proposed statement of "Functions, Standards, and Qualifications for Practice of Office Nurses". In this study, it was recognized that the professional nurse might or might not be responsible for managerial and other functions. These were, however, categorized as follows:

MANAGERIAL: a. Appointment schedules. b. Hospital arrangements. c. Assistance in arranging for consultations, referrals, transfers. d. Adequate and accurate patient records. e. Maintenance and care of supplies and equipment. f. Correspondence, insurance forms, et cetera.

OTHER: a. Laboratory, x-ray, Physical Therapy and similar services. b. Bookkeeping. c. Banking. d. Auditing.

Each of these subjects has been dealt with in great detail, but in such a manner that the reader's interest is held throughout. Emphasis is placed upon the importance of proper dress, personal health, as well as other pertinent subjects. Fundamentals in the use of the telephone are discussed, first using as a basis the methods of instruction given to employees of a large telephone company and developing the subject as it would apply to the doctor's assistant.

A.J.S.

THE MANAGEMENT OF MENSTRUAL DISORDERS. By C. Frederic Fluhmann, B.A., M.D., C.M., Clinical Professor of Obstetrics and Gynecology, Stanford University School of Medicine. 350 pages, illustrated. W. B. Saunders Company, Philadelphia and London. 1956. Price $8.50.

This commendably written volume is directed primarily toward the medical practitioner, however the more specialized student of gynecology may find the book a very good general introduction, as considerable attention is given to fundamental principles.

The chapters on Gonadotropins, Steroid Hormones, and Neural and Endocrine Control of Menstruation are well presented. Without going into too highly technical language, the subject matter provides detailed information.

The two age epochs, adolescence and climacterium, receive special attention, and an entire chapter is devoted to the clinical usage and commercial preparations of Sex Hormones. This listing of so-called sex hormones is offered as a means of orientation. It does not purport to be complete or discriminating, but is representative of types sold in this country.

The various menstrual disorders, their definition, diagnosis, and treatment are described as separate entities but their place in the wider field of general medicine has been kept in mind, so this book is going to be of exceptional value to those physicians interested in the clinical management of menstrual disorders.

COL. JOHN W. DARROUGH, MC, USAR

CARDIAC PRESSURES AND PULSES. By Aldo A. Luisada, M.D., Associate Professor of Medicine, The Chicago Medical School; and Chi Kong Liu, M.D., Instructor of Medicine, The Chicago Medical School. 116 pages, 51 figures. Grune & Stratton, New York and London. 1956. Price $6.00.

This small book is designed to simplify the study of the ever expanding field of cardiac catheterization. It is divided into 7 Chapters covering a description of the physiologic events of the cardiac cycle; the technique of catheterization with recordings of pressure tracings; a discussion of normal pressures of the cardiac chambers and large vessels; normal patterns of pressure in the cardiac abnormal pressure patterns; artifacts; and formulas used in cardiac catheterization.

The authors are exceptionally qualified in this field and have succeeded admirably in their purpose. They are well versed with the contributions and concepts of other workers in this field and give them credit where due.

They start the reader off with a clear introduction of the subject and carefully advance him through the various complexities of cardiac catheterization and the interpretation of the pulses and pressures obtained thereby. They do not hesitate to point out weaknesses and pitfalls, as well as the valuable contributions made by cardiac catheterization to the fuller understanding of cardiac physiology and its magnificent aid in diagnosis.

The illustrations are placed to correspond to the written text and clearly demonstrate the points the authors desire to emphasize. The summary tables on pages 106 to 109 are particularly valuable.

This book is definitely for the advanced student of heart disease, but internists and thoracic surgeons will gain much by studying it carefully. There is a comprehensive bibliography and index at the conclusion of the text.

CAPT. JULIAN LOVE, USN, RET.

VIRUS DISEASES AND THE CARDIOVASCULAR SYSTEM. By Ernest Lyon, M.D. 215 pages. Grune and Stratton, New York and London. 1956. Price $5.75.

This book is a handy compendium on virus and rickettsial diseases with particular emphasis being placed upon the effects that these diseases have upon the cardiovascular system.

The author introduces his subject by some general comments regarding present concepts of viral diseases and devotes a chapter to special aspects concerning the cardiovascular system emphasizing particularly the capillary syndrome common to so many of these infections.

The second and third parts cover individual viral and rickettsial diseases and their specific effects in general and upon the cardiovascular system. Finally, there is an addendum in which certain references of significance not previously recorded are mentioned.

Dr. Paul White in his foreword believes this book will fill an important need and heartily recommends this book. Certainly it is well written, required much study on the part of the author, and the bibliography is a vast one. Nevertheless, this reviewer feels that this book will have limited appeal because cardiovascular effects produced by viral and rickettsial diseases are non-specific and seldom diagnostic. This treatment is and will be supportive until such time as specific antivirocidal agents become available. Then as in the case of the Rickettsial diseases the treatment will be that of the disease itself.

CAPT. JULIAN LOVE, USN, RET.

VETERINARY PARASITOLOGY. By Geoffrey Lapage, M.D., M.Sc., M.A., M. Inst. Biol., External Examiner in Veterinary Parasitology, University of Liverpool. 964 pages. Charles C Thomas, Springfield. 1956. Price $12.75.

This comprehensive text covering helminths, arthropods, and Protozoa "is about the parasitic animals that cause diseases of British farm stock." It is true that most of the parastic diseases discussed are of more cosmopolitan distribution and thus the information is applicable to other countries. In some instances it would have been much better if there had not been this geographic limitation: some parasites would have discussed more adequately and others included which were omitted entirely.

The first two chapters consist of a discussion of the kinds and effects of parasitism. The parasites are then presented according to their zoological classification. In a few

instances the discussion is slanted more toward medical than veterinary aspects of parasitology. This is probably in keeping with the author's goal of providing a text useful for those interested in the field of general parasitology as well as for the teacher and student of veterinary parasitology.

The specific discussions of treatment and other control measures are in most instances quite brief. The general discussion of the principles of parasite control is very good. The illustrations (34 plates and 454 figures) are excellent.

This book will probably be of greatest value to the student of veterinary parasitology when it is adequately supplemented by lecture and laboratory presentations. It will serve as a very useful one-volume reference on the subject for the graduate veterinarian.

W. S. Bailey, D.V.M., M.S., D.Sc.

Clinical Orthopaedics, No. 7. Tumors of Bone. Edited by Anthony F. DePalma, with assistance of Associate Editors. 354 pages, illustrated. J. B. Lippincott Company, Philadelphia and Montreal. 1956. Price $7.50.

This volume is similar in format to the preceding volumes. This "Number 7" of the series consists of three sections: *Tumors of Bone; General Orthopaedics; and Motorist Injuries and Motorist Safety.*

The scope of Section I can be best estimated by enumerating the various chapters: Tumors of Cartilaginous Origin, Osteogenic Sarcoma of Bone, Primary "Round Cell" Sarcoma of Bone, Fibrosarcoma, Giant-cell Tumor of Bone, Aneurysmal Bone Cysts, Chordoma, Osteoid Osteoma, Synovial Chondromatosis, Chondroblastoma, Bone Changes in Blood Dyscrasia, and Perineural Cysts. The current knowledge of the facts in each are described in an authoritative manner.

Section II consists of chapters on: Experiences with Congenital Scoliosis, Studies of the Use of Cultured Calf Bone in Human Bone Grafts, Clinical Fractures of the Acetabulum, A Search for Nonallergic Polymerizing Plastic, Muscular Dystrophy, Calcification of the Intervertebral Disc, Making Plastic Arch Supports, and Calcaneous Tendinitis at the Elbow.

Section III consists of 100 pages and is divided into 18 chapters. There are described the forces involved with a statistical study of injuries of various parts of the body caused by automobiles. Safety precautions are advised which should tend to minimize the number and severity of injuries.

This book should serve as a ready reference source for those subjects described.

Col. Edward A. Coates, Jr., USA, Ret.

Medical Parasitology. 2nd Ed. By William G. Sawitz, M.D. Professor of Parasitology, Associate in Medicine, The Jefferson Medical College of Philadelphia. 342 pages. The Blakiston Division, McGraw-Hill Book Company, Inc. 1956. Price $6.00.

The second edition of this compact text, like the first, is intended for medical students and practicing physicians. The author presents the subject from the medical point of view and attempts to provide information necessary to understanding the various parasitic diseases that are discussed. Following the introduction there are six main sections: Protozoa, Helminths, Arthropoda, Treatment, Synopsis and Techniques for Laboratory Diagnosis. Included is a list of important textbooks and journals in parasitology and a useful Vocabulary of Technical Terms. This text is illustrated by 88 black and white drawings plus one color plate on malaria. Most of these figures are clear, but some might be improved. Comprehension of the host-parasite relationships and the life cycles is aided by a number of simplified life cycle diagrams and tables.

Obviously in a book of this type much material has to be omitted. For example, the discussion of the distribution and epidemiology is reduced to a minimum as is the material on clinical characteristics. The reduction of emphasis on the biology and complicated life cycles is to be commended. The section on treatment is good and is up-to-date.

The chapter on the Arthopoda is concise and pertinent and the portion on insecticides well arranged.

The chapter on Techniques for Laboratory Diagnosis includes some of the newer methods that have been developed, such as the polyvinal alcohol fixative (PVA), the MIF fixative and stain, the centrifugal sedimentation technique which is usually called the ether sedimentation (MGL) technique and Army Medical School (AMS) technique. Unfortunately the use of these procedures is not indicated where specifically applicable. It might also be pointed out that the zinc sulfate technique is recommended for protozoan cysts. While this is an excellent and standard technique the ether sedi-

mentation (MGL) seems to be superior for the detection of protozoan cysts yet it is not mentioned in the portion dealing with diagnostic methods for amebiasis. Likewise with many types of stools the ether sedimentation (MGL) and the Army Medical School (AMS) procedures have both been found to be excellent for the detection of helminth eggs and larvae yet this is not indicated in the portion dealing with the intestinal roundworms and cestodes. The author does not include any reference to the preparation and use of Giemsa or Wright's stains even though reference is made to them in the chapter on protozoa.

On the whole the author should be commended on the selection and presentation of the material on medical parasitology. It should prove useful to many others besides the medical students and the practicing physicians.

COL. GEORGE W. HUNTER, III, USA, RET.

NEW AND NONOFFICAL REMEDIES—1956. Evaluated by the Council on Pharmacy and Chemistry of the AMA. 540 pages. J. B. Lippincott Company, Philadelphia and Montreal. 1956. Price $3.35.

The 1956 edition of this very familiar book has some changes in content which are worthy of comment. It has been expanded to include information on all available new drugs instead of only those having established uses. Much more emphasis on basic information has been accomplished by the elimination of manufacturers' names, monographs on ready-prepared mixtures, and sizes and forms of dosage.

Added monographs number fifty-nine and include such items as: Aminopterin Sodium, Chlorpromazine Hydrochloride, Ethinamate, human Fibrinogen, Glucosulfone Sodium, Mephenesin Carbamate, Methscopolamine Bromide, Nystatin, Pentolinium Tartrate, Prednisone, Radio-Gold Colloid, Rauwolfia, Sitosterols, Warfarin Sodium, etc. Other monographs are included for the simultaneous and combined use of two or more drugs.

This volume obviously is a must for all pharmacies, medical libraries and the personal files of all internists.

CAPT. L. J. POPE, MC, USN

COMPOSTING. By Harold B. Gotaas, Professor of Sanitary Engineering, Dep't. of Engineering, University of California. 205 pages, illustrated. Columbia University Press, IDS, New York. 1956. Price $5.00.

Those of us who served in France during either World War have nostalgic memories of the huge piles of manure which decorated the front yards of many village homes, the size of the pile being an indication of the wealth and social standing of its owner.

In many parts of the world the use of unprocessed night soil for the fertilization of market gardens is a common practice, one which makes the consumption of raw foods a hazard. The return of these and other valuable organic substances to the producing soil is, nevertheless, an important agricultural and economic procedure. This book, by a prominent sanitary engineer, tells in considerable detail how it is being done and can be done without constituting a menace to the public health.

In certain countries in Europe and Asia municipal wastes have been composted safely for many years, but in the United States these valuable soil nutrients usually are incinerated, employed for fill, or otherwise wasted, although they could be easily reclaimed at less cost than is now devoted to their disposal. The author outlines the scientific aspects of decomposition, describes simple and complex composting methods, and tells how they can be applied in cities, villages, and on farms.

The book is well printed and has a good index. Anyone concerned with the problems of composting will find it of interest and value.

COL. JAMES A. TOBEY, USA, RET.

HEALTH OBSERVATION OF SCHOOL CHILDREN. 2nd Ed. George M. Wheatley, M.D., M.P.H., and Grace T. Hallock. 488 pages, illustrated. McGraw-Hill Book Company, Inc., New York, Toronto, London. 1956. Price $6.50.

This book is directed to teachers, school nurses and others who have the intimate supervision of school children as a responsibility and, as such, is written in language they can understand. It does not, however, except in rare instances fall into either the trap of being too elementary or that of empirically presenting opinions in the guise of fact.

After presenting a broad picture of the normal patterns of physical and emotional growth, the authors discuss in turn each of the major systems of the body in terms of anatomy, physiology, important deviations from normal and the signs of disease which should appropriately be observed by alert lay individuals.

Each chapter ends with the recommendations for further study and an extensive, generally up to date supplementary reading list. Included, also, is a generous list of visual aids and the addresses of various organizations from whom reading and visual aids may be obtained.

The book is highly recommended for the educators and school health officials.

LT. COL. JOSEPH W. COOCH, MC, USA

CYTOLOGY OF THE BLOOD AND BLOOD-FORMING ORGANS. By Marcel Bessis, Director of Research Laboratory, National Center of Blood Transfusion, Paris; translated by Eric Ponder, The Nassau Hospital, Mineola, New York. 629 pages, 405 figures, 22 plates. Grune & Stratton, New York and London. 1956. Price $22.00.

Dr. Eric Ponder has done a masterful job of translating this extremely valuable book. Dr. Bessis has added much to our classical hematology by including descriptions of the results of studies of cells in the living state and their ultrastructure as revealed by the electron microscope.

The development of recent techniques, particularly those of phase microscopy, electron microscopy, cytochemistry, the use of the ultracentrifuge, and the examination of blood cells by ultraviolet light and the fluorescent microscope makes reassessment of classical ideas based on stained films necessary. The author has had broad experiences with these new technics and has carefully recorded his impressions and interpretations. Thus it is a source-book of descriptive hematology of some of the strange and unfamiliar morphologic appearance of blood cells as revealed by these newer technics.

The fifteen chapters of the book are divided into three parts: Part One: Techniques; Part Two: General Observations on the Physiology and Pathology of Blood Cells; and Part Three: A Study of the Different Series of Blood Cells. Each chapter is supplemented by a well-chosen bibliography. The many illustrations and plates do much to fortify the text. The reader will find them extremely helpful in aiding him to form his own mental image of the appearance of blood cells by phase microscopy and electron microscopy.

In regard to nomenclature the author has tried to use a functional one that will convey meaning to all readers. In so doing he has used terms that may not be familiar, but the addition of frequent footnotes and careful descriptions should make these terms plain. Also the author presents some concepts of the development and pathology of the hematopoietic system not commonly shared in this country. However, this does not detract from the value of the book. One accepts or rejects different concepts or is stimulated to review his own thinking on the matter.

It is felt that this outstanding work will be of great value to the medical profession and especially to the hematologist.

LT. COL. JOS. H. AKEROYD, MSC, USA

PSYCHOANALYSIS OF BEHAVIOR. Collected Papers. By Sandor Rado, M.D., D.P.Sc., Former Clinical Professor of Psychiatry and Director of Psychoanalytic Clinic for Training and Research, Columbia University. 387 pages. Grune & Stratton, New York and London. 1956. Price $7.75.

This collection of twenty-eight papers, written by a well-known psychoanalyst between 1922 and 1956, had previously been published in German, English, and American scientific periodicals and books. They are arranged in chronological order and are divided into three groups. The first group of six papers discusses psychodynamics and begins with the use of hypnosis. The second group, made up of seven papers, discusses the theoretical mechanisms in psychoanalysis and emphasizes the scientific aspects of training in psychoanalysis. The third section, which begins with the paper published in 1946, attempts to explain the development of adaptational psychodynamics and ends up with the sentence, "We may look forward with confidence to the future development of psychoanalytic therapy."

It is obvious that Dr. Rado holds very closely to the Freudian line but emphasizes that "viewed in its entirety, treatment with the adaptational technique takes place in an intellectual and emotional climate profoundly different from that of the classical technique. As elsewhere in medicine, this change in treatment procedure can be fully realized only through the physician's own practical experience. This of course requires familiarity with all the details and finesses of the adaptational technique."

The book is well-indexed and is clearly written. Any physician interested in a better understanding of psychoanalytic technics will find that this book is worthwhile reading.

CDR. JAMES L. MCCARTNEY. MC, USNR, RET.

CLINICAL UROLOGY FOR GENERAL PRACTICE. By Justin J. Cordonnier, M.D., F.A.C.S., Professor of Urology, Washington University School of Medicine. 252 pages, illustrated. C. V. Mosby Company, St. Louis. 1956. Price $6.75.

As stated in the title, this book is designed primarily for the general practitioner, and to this end it would seem to serve its purpose well. In terse, yet succinct fashion, all of the more important and common urological diseases are presented in clear, easily understandable form. However, the book is more than an outline. Indeed, it is to the author's credit that he is able to pack so much information into such limited space, while avoiding confusion and maintaining readability. Appropriately, a plea is extended to the general practitioner for the early detection of such insidious lesions as asymptomatic carcinoma of the prostate (by routine rectal examination in all males over 45); upper urinary tract obstructions and stones in recalcitrant or recurrent infections (by liberal use of urography); and the urgent need for complete and immediate investigation of all cases of hematuria. Emphasis is placed on the generalist as the first line of defense in the patient's fight against disease and this alone gives the book a good deal of merit.

It seems safe to say, on the basis of the material within this book, that those graduates of the author's Medical School who go into general practice, do so with a grounding in Urology which is enviable and bodes well for the quality of medical care their patients will receive, at least from the urological standpoint.

This book is recommended for medical students and general practitioners, and can be read with profit by all neophytes in urology.

CAPT. HOWARD POLLACK, USAF (MC)

CRYPTOCOCCOSIS. By M. L. Littman, M.D., Ph.D., Dep't. of Microbiology, The Mount Sinai Hospital; and Lorenz E. Zimmerman, M.D., Central Laboratory, Veterans Administration, Armed Forces Institute of Pathology. 205 pages, illustrated. Grune & Stratton, New York and London. 1956. Price $8.50.

This exceptional volume is the first of a proposed series of monographs on individual systemic mycoses. *Cryptococcosis,* called Torulosis or European Blastomycosis, was first described in 1894. Until 1955, there were 300 cases of clinical human disease reported in the world literature. The authors have had access to full reports and speciments on 80 cases collected at the Armed Forces Institute of Pathology. Such material makes their remarks as authoritative as possible.

There is discussion of historical aspects; incidence; Portals of Entry; Human and Animal Clinical Forms; immunology; pathology; laboratory studies; treatment; and prognosis. There are numerous figures. X-rays are of unusual clarity. Four color plates are used showing macroscopic lesions; tissue sections; colonial characteristics; and encapsulated Cryptococci neoformans with special stains.

Treatment consideration is particularly valuable since treatment thus far has been unrewarding. There is detailed discussion of various physical and chemical agents; antibiotics; immunologic agents and enzymes; and of the occasional success of local surgery.

The bibliography is extensive; indexing complete; and there is a special section dealing with preparation of culture media and special stains. This book will be a valuable addition to medical school libraries, microbiology laboratories, and for physicians interested in the field of mycotic diseases.

E. G. BEACHAM, M.D.

PROCTOLOGY. By Harry E. Bacon, M.D., F.A.C.S., Professor and Head Dep't. Proctology, Temple University Medical School; Stuart T. Ross, M.D., F.A.C.S., President American Proctologic Society; Porfirio Mayo Recio, M.D., F.P.C.S., Ass't. Professor Surgery, College of Medicine University of Philippines. 441 pages, illustrated. J. B. Lippincott Company, Philadelphia and Montreal. 1956. Price $10.00.

The authors of this book propose to provide rapid and convenient reference for fundamentals of basic proctology to meet the needs of the general practitioner and general surgeon. They accomplish this purpose quite well in the main.

Particularly to be commended are the profuse and detailed illustrations of anatomy and surgical procedures. These alone would make the book worth while for the general practitioner and general surgeon who is encountering problems in the field of proctology.

The sections on anesthesia and hemorrhoids are particularly noteworthy and the treatment of hemorrhoids is presented in adequate detail and presents a very usefui

reference book for the practitioner doing an occasional procedure of this sort.

The section on diagnosis and treatment of abscesses and fistulas is also extremely well done. Very good description of surgical management of these conditions are presented succinctly but in adequate enough detail so that they would be of a great deal of importance to the person about to embark on one of these procedures and needing a fresh point of view.

The outstanding section of the book is that on lymphogranuloma venereum, its rectal and anal complications and the section on prolapse and procidentia is exceptionally well done.

The debit side of the ledger would suggest that the diagnosis and treatment of the primary medical conditions could have been improved upon to the benefit of the reader of the book. Specifically, the sections on treatment of intestinal tuberculosis and intestinal parasitic disease could be improved significantly. The description of the lesions of some of the treatable entities in the proctocolitis group leaves something to be desired. In the group of the recto-sigmoidal granulomas no mention is made of ameboma which is not infrequently encountered. In the benign tumor section no mention was made of familial polyposis associated with melanosis, "Yeagers-Peutz syndrome" and not sufficient stress on the familial nature of polyposis is made in advising treatment of the condition.

The book is recommended for the general practitioner and general surgeon who has need of a handy reference work to guide him in this important field of medicine.

COL. RYLE A. RADKE, USA, Ret.

VENOUS RETURN. By Gerhard A. Brecher, M.D., Ph.D., Julius F. Stone Professor of Physiology, Ohio State University. 148 pages, illustrated. Grune & Stratton, New York and London. 1956. Price $6.75.

Impressed by the colorful, pulsatile dynamics of arterial flow, clinicians and physiologists have overlooked the equally essential steady return of venous blood to the heart despite the fact that ventricles can only pump out blood that has been returned to it via the venous systems and atria.

Dr. Brecher has been an assiduous student of this neglected phase for many years. In this monograph, he presents the history, physics, basic physiology and clinical import of venous return. The reader becomes acquainted with the technical difficulties encountered in the accurate recording of volume flows, and the ingenuity with which the author and his associates have attempted to solve these problems.

Dr. Brecher discusses all the factors that combine to assist the relatively passive venous system in returning a volume of blood to the atria, equivalent to that ejected by the ventricles. These include myocardial *vis a tergo* and *vis a fronte*, static negative intrathoracic pressure, respiratory movements, skeletal muscle contractions, gravity and variations of venous anatomy.

The function of the heart as a suction-pressure pump rather than solely a pressure pump, is well explained. This double function actually brings about the pressure gradient of the circulation which is the major factor responsible for the success of the round trip made by blood.

The figures used throughout this text are most helpful and the author employs summarizing paragraphs skillfully. These two features add much to the teaching value of the book. A comprehensive bibliography, alphabetically arranged, appears at the end.

This excellent book will appeal primarily to those concerned with the physiology and pathology of circulatory dynamics, cardiologists, anesthetists, thoracic surgeons, flight surgeons, and submarine medicos.

CAPT. JULIAN LOVE, USN, Ret.

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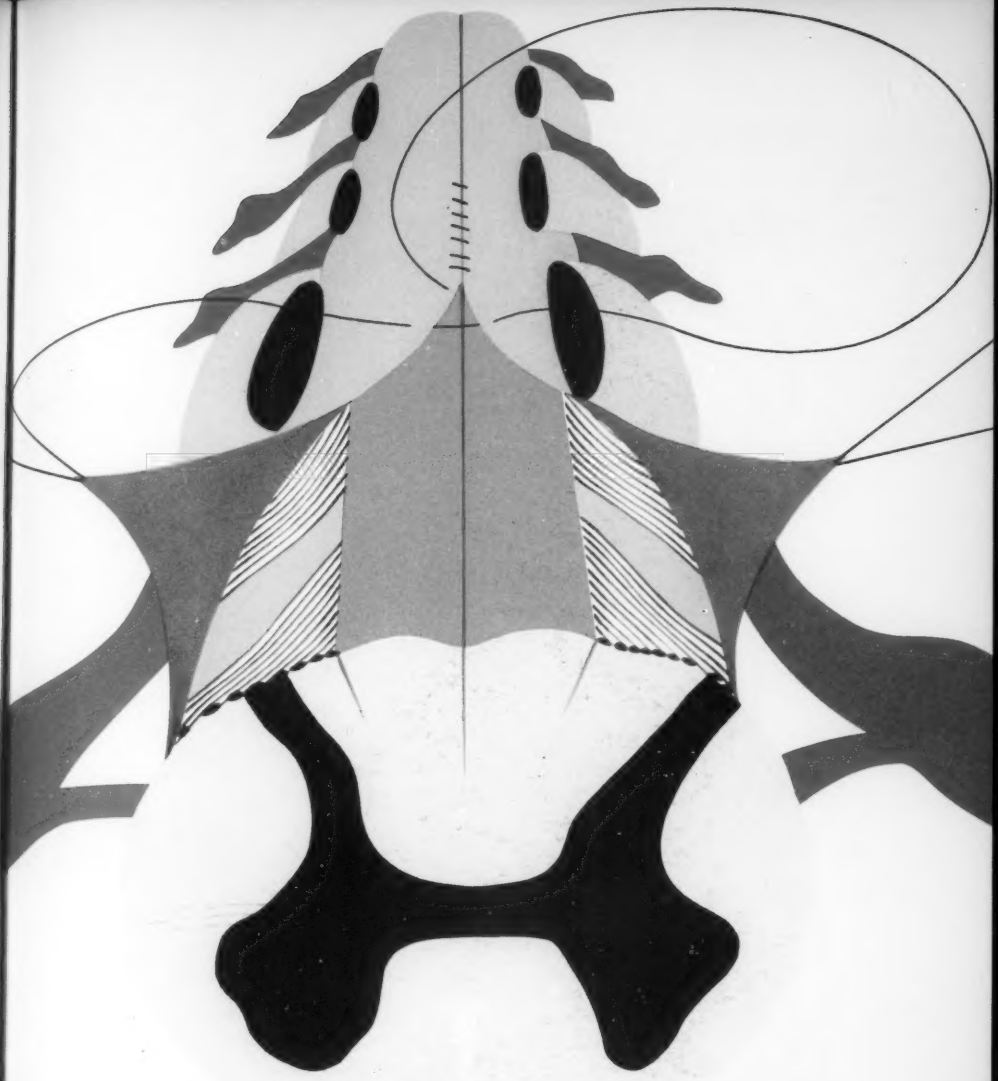

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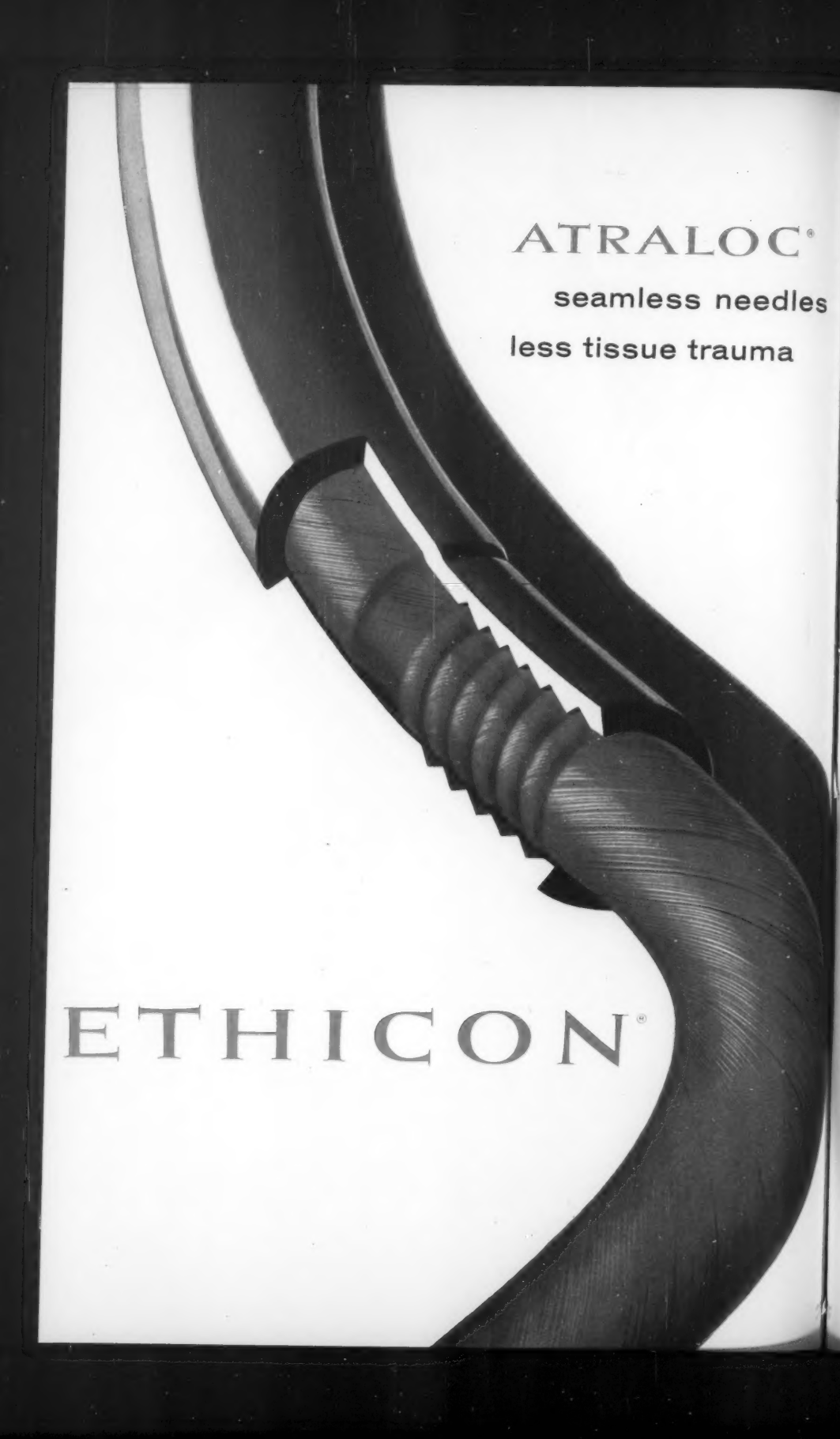
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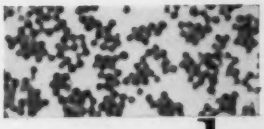
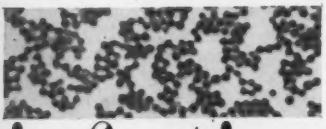
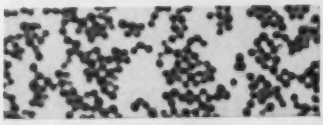
when sensitivity   testing reveals infection due to resistant staphylococci 

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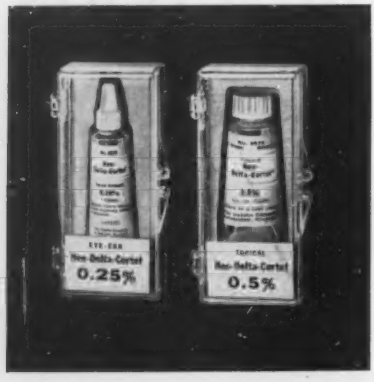

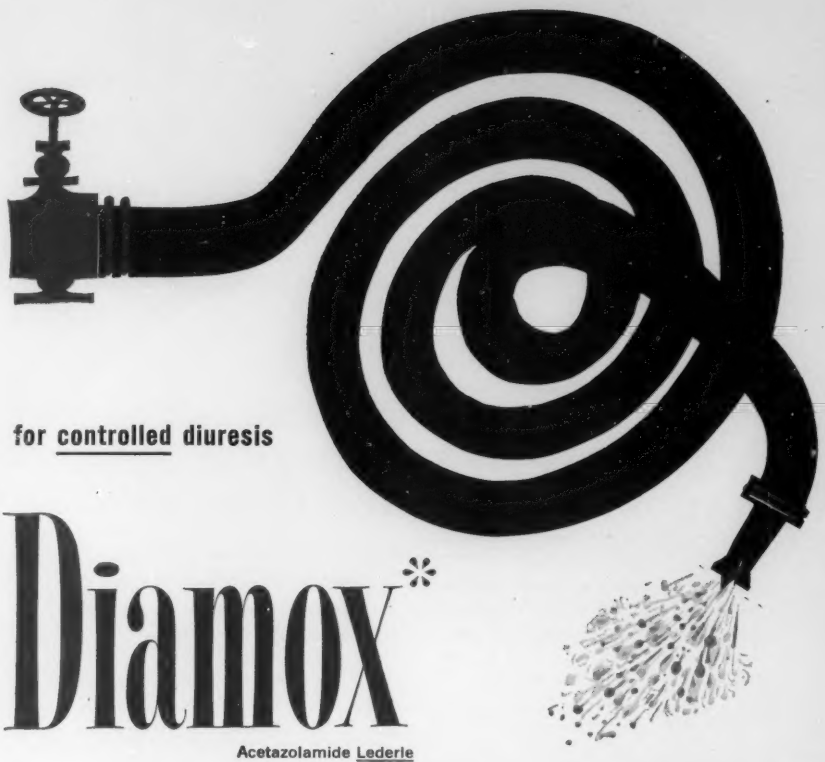

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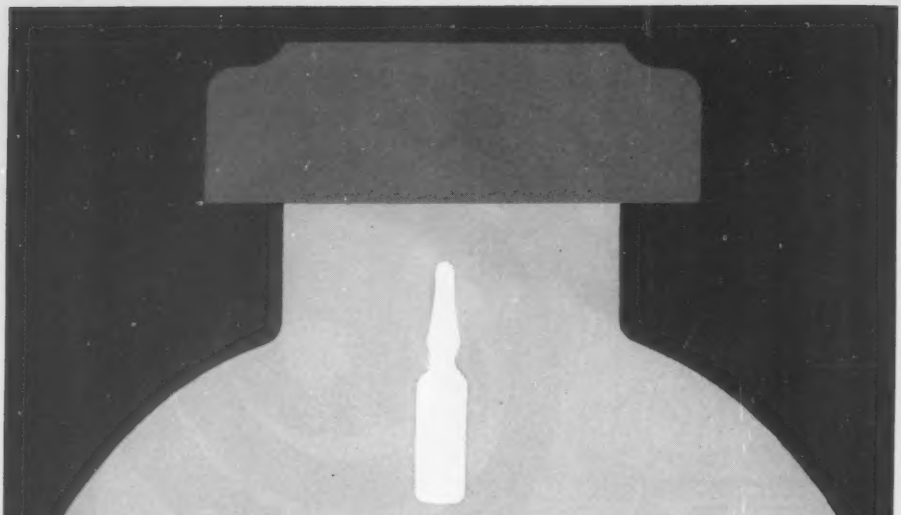

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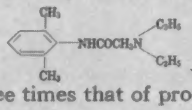

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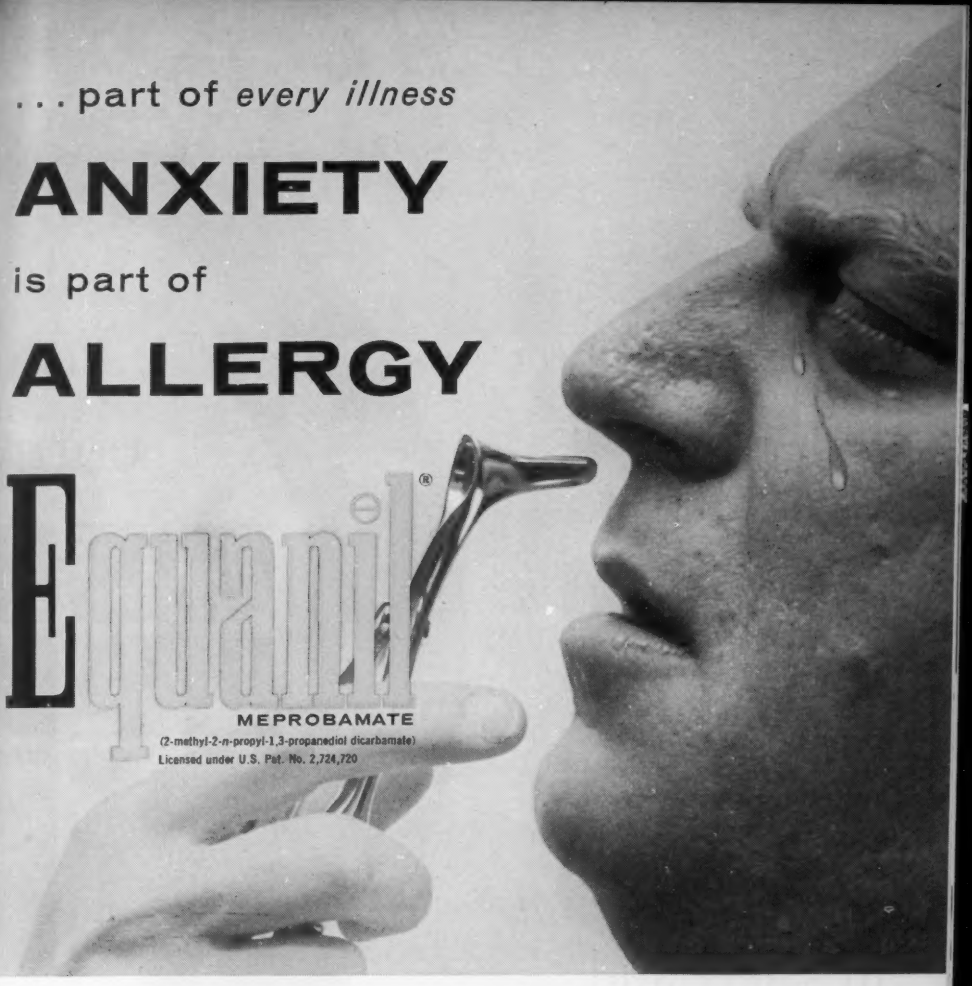

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1. Dunbar, F.: Emotions and Bodily Changes. Columbia University Press, New York, 1954, p. 628.

2. Lemere, F.: Northwest Med. *54*:1098 (Oct.) 1955.

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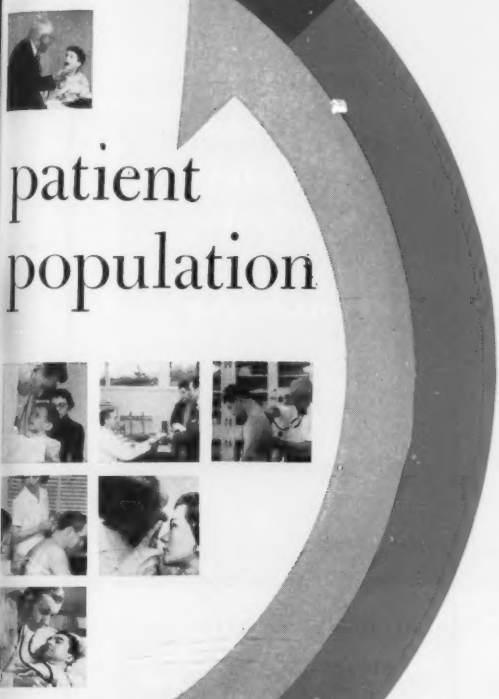

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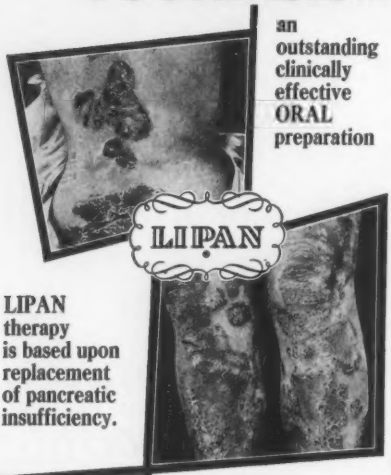

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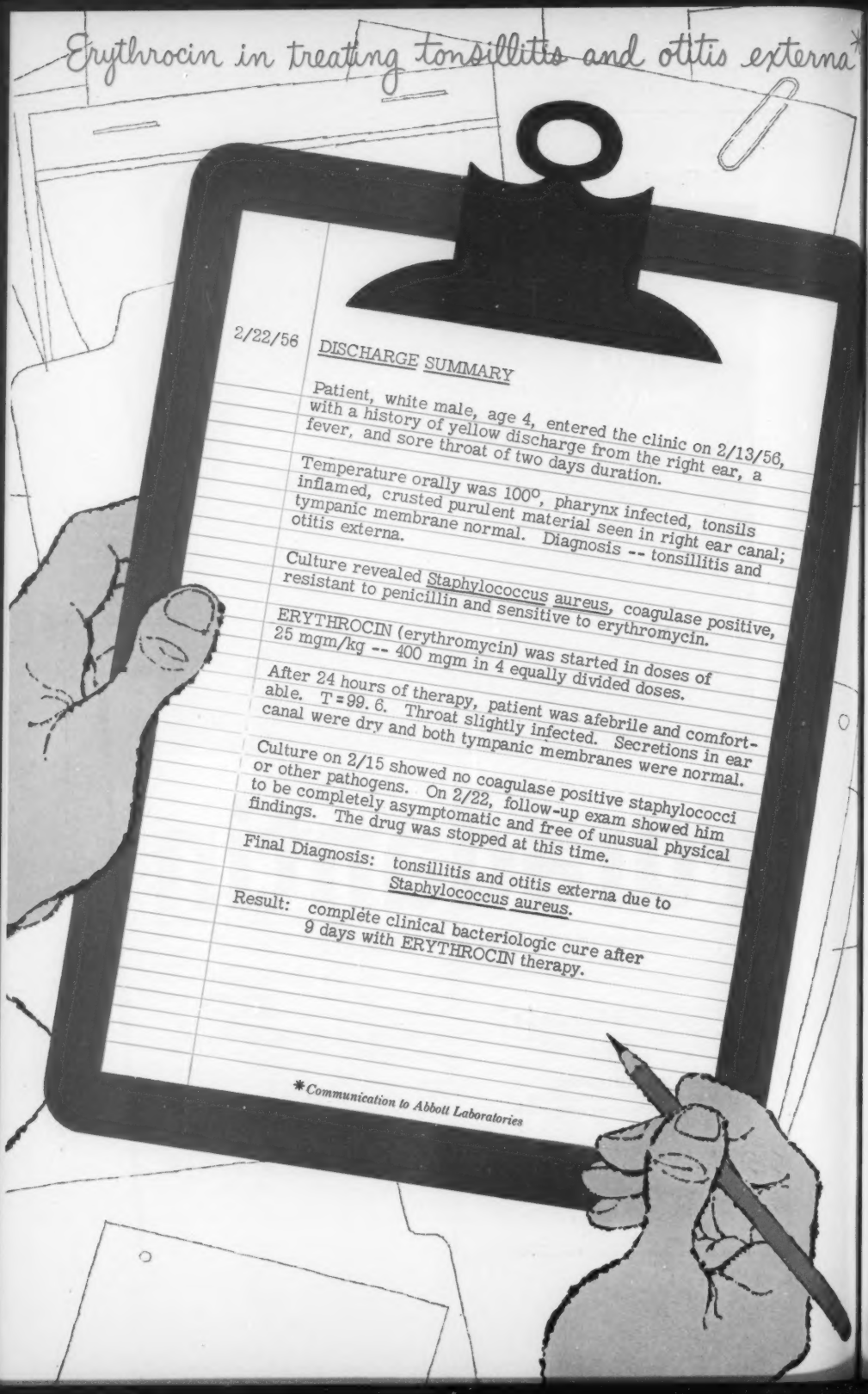
References: 1. Kass, E. H.: Am. J. Med. **18**:764, 1955. 2. Diggs, E. S., Prevost, E. C., and Valderas, J. G.: Am. J. Obst. **71**:399, 1956.

Erythrocin in treating tonsillitis and otitis externa*



2/22/56

DISCHARGE SUMMARY

Patient, white male, age 4, entered the clinic on 2/13/56, with a history of yellow discharge from the right ear, a fever, and sore throat of two days duration.

Temperature orally was 100°, pharynx infected, tonsils inflamed, crusted purulent material seen in right ear canal; tympanic membrane normal. Diagnosis -- tonsillitis and otitis externa.

Culture revealed Staphylococcus aureus, coagulase positive, resistant to penicillin and sensitive to erythromycin.

ERYTHROCIN (erythromycin) was started in doses of 25 mgm/kg -- 400 mgm in 4 equally divided doses.

After 24 hours of therapy, patient was afebrile and comfortable. T=99.6. Throat slightly infected. Secretions in ear canal were dry and both tympanic membranes were normal.

Culture on 2/15 showed no coagulase positive staphylococci or other pathogens. On 2/22, follow-up exam showed him to be completely asymptomatic and free of unusual physical findings. The drug was stopped at this time.

Final Diagnosis: tonsillitis and otitis externa due to Staphylococcus aureus.

Result: complete clinical bacteriologic cure after 9 days with ERYTHROCIN therapy.

*Communication to Abbott Laboratories

"clinical response good or excellent"

In one recent study, 18 patients with acute follicular tonsillitis and septic sore throat, were given erythromycin. Infecting organism was *Str. pyogenes.* The investigator stated, *"In all 18, the clinical response could be regarded as either good or excellent."*[1]

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1. Herrell, W. E., Erythromycin, Antibiotics Monographs, No. 1, p. 29, New York, Medical Encyclopedia, Inc., 1955.
Idem p. 30.

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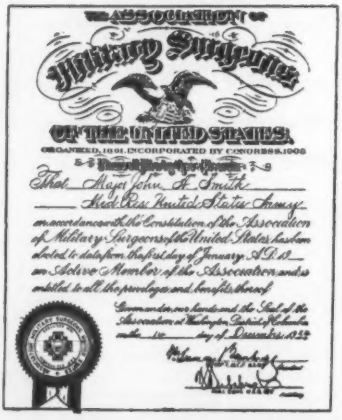
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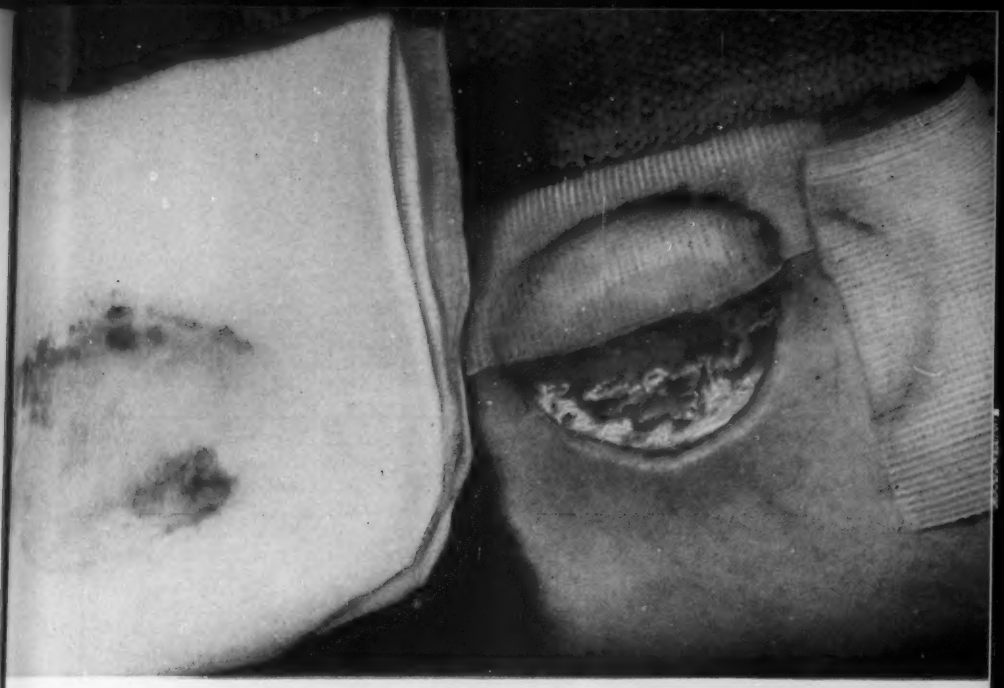
THE MILTOWN MOLECULE

CM-3707-R2



Sterile **ADAPTIC**® *Non-Adhering Dressing*

This dramatic photo of a tropic ulcer shows how the exudate has passed through the ADAPTIC Non-Adhering Dressing and was absorbed by the sponge.

Non-Adhering

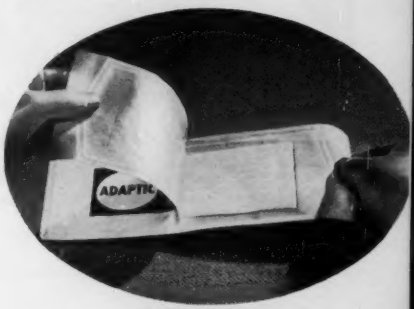
New growth tissue cannot become entangled with the dressing. A special bland petrolatum emulsion covers the fabric without clogging the pores.

Conforming

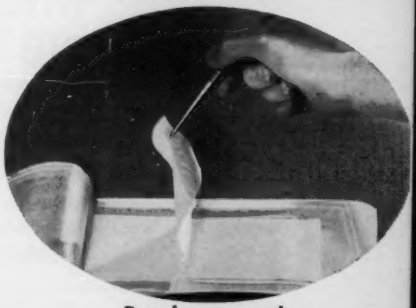
ADAPTIC Non-Adhering Dressing serves as a flexible, porous shield between the wound and secondary dressing—conforms to the slightest body contour.

Porous, Prevents Maceration

Open pores of dressing fabric allow exudate to pass through, thus preventing puddling at the wound site.



Sterile package easily peeled open



Dressing removed, insuring sterile technique.

Johnson & Johnson

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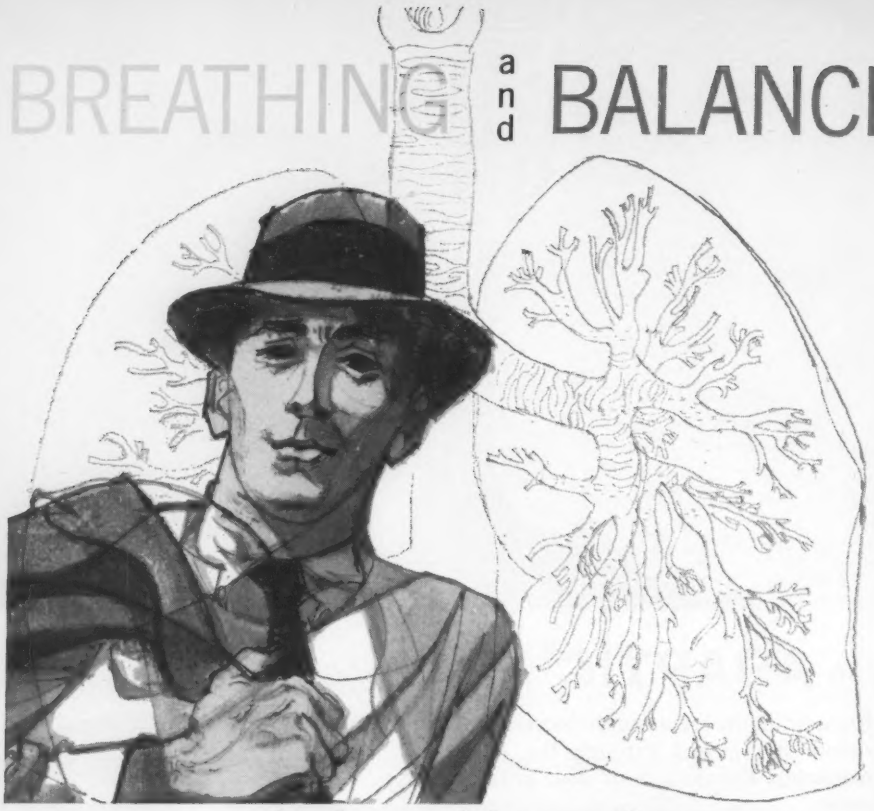
BREATHING and BALANCE



in bronchial asthma

Sterane®

brand of prednisolone

whenever corticosteroids are indicated

provides restoration of breathing capacity — Relief of symptoms [bronchospasm, cough, wheezing, dyspnea] is maintained for long periods with relatively small doses.*

minimal effect on electrolyte balance — "in therapeutically effective doses . . . there is usually no sodium or fluid retention or potassium loss."* Lack of edema and undesirable weight gain permits more effective therapy particularly for those with cardiac complications.

Supplied: White, 5 mg. oral tablets, bottles of 20 and 100. Pink, 1 mg. oral tablets, bottles of 100. Both are deep-scored.

*Schwartz, E.: New York J. Med. 56:570, 1956.

PFIZER LABORATORIES, Brooklyn 6, New York
Division, Chas. Pfizer & Co., Inc.

Shown above: Complete assembly and replaceable components

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DO IT IN SECONDS – INSERT GUIDE NEEDLE, TROCAR-TUBE: REMOVE NEEDLE – REMOVE TROCAR – THAT'S ALL!

A Must for Surgeons – Anesthesiologists – Hospitals. WRITE FOR FREE CATALOG

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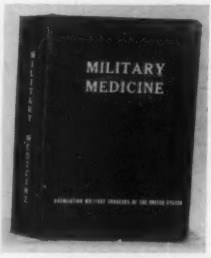

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intramuscular

VARIDASE*

Streptokinase-Streptodornase Lederle

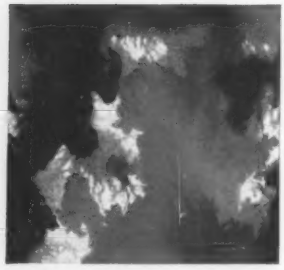
provides

remarkable

control

over

inflammation



Many patients with inflammatory lesions respond dramatically when VARIDASE is given intragluteally. Action is similar to VARIDASE applied locally, but results are much more swift and hitherto unattainable areas may be treated by the intramuscular route.

When employed in this manner, VARIDASE lyses the "limiting membrane" of leukocytes and fibrin which is thrown up about an inflamed or infected area. Thus, liquefaction and resorption of the contained exudate is made possible. In case infection is present, or feared, an antibiotic such as ACHROMYCIN* Tetracycline should be administered concomitantly to prevent the development of generalized sepsis.

Recent investigation has extended the list of indications for intramuscular VARIDASE therapy to include abscesses, burns, cellulitis, edema, epididymitis, hemarthrosis, sinusitis, lymphangitis, lymphadenitis, and thrombophlebitis with or without superimposed infection.

VARIDASE (Water Soluble—No Oil)

Administration: INTRAMUSCULAR, deep in the upper, outer quadrant of the buttock

Lederle LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, N. Y.

*REG. U. S. PAT. OFF.

in a single tablet —

pain relief
plus
antibacterial action

AZO GANTRISIN

In urinary tract infections, Azo Gantrisin usually provides effective antibacterial control (local and systemic), together with prompt relief of associated pain and discomfort . . . by combining well-tolerated Gantrisin with a clinically proved urinary analgesic.

ROCHE

Each Azo Gantrisin tablet contains 0.5 Gm Gantrisin 'Roche' plus 50 mg phenylazo-diamino-pyridine HCl.

Gantrisin® - brand of sulfisoxazole

For controlling cough

ROMILAR IS AT LEAST AS EFFECTIVE AS CODEINE

Milligram for milligram,
Romilar is equal to codeine
in specific
antitussive effect

For avoiding unwanted side effects

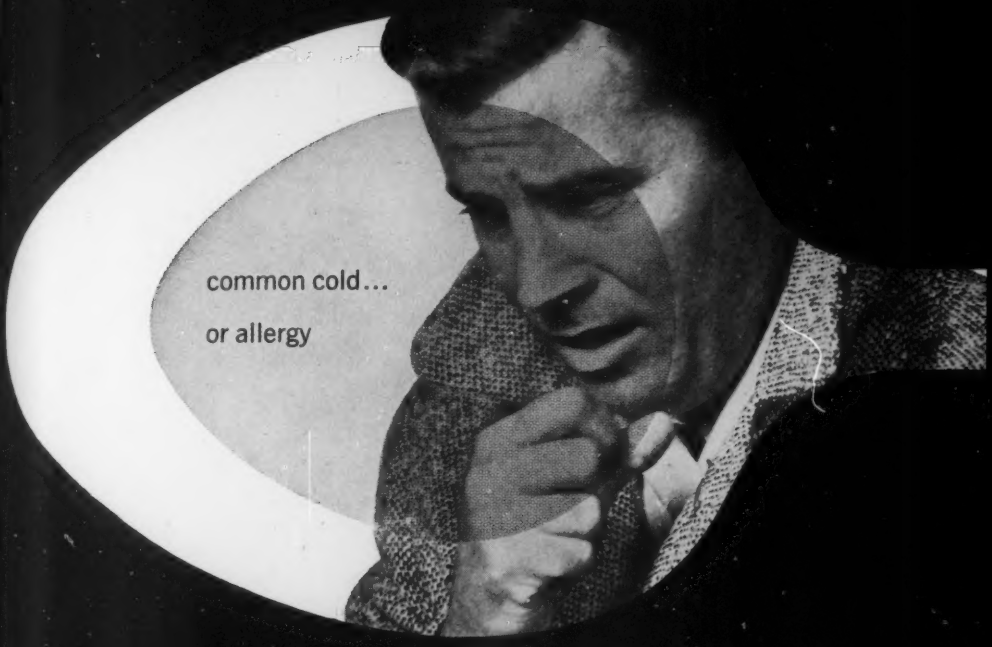
ROMILAR IS CLEARLY BETTER THAN CODEINE

Non-narcotic,
non-addicting—
does not cause drowsiness,
nausea,
or constipation

ROCHE Hoffmann-La Roche Inc • Nutley • N. J.

Romilar® Hydrobromide—brand of dextromethorphan hydrobromide.

Syrup, Tablets, Expectorant (w. NH_4Cl)



if he's coughing:

AMBENYL®

EXPECTORANT

AMBENYL EXPECTORANT has achieved an outstanding record for cough relief because it is equally effective in coughs occurring with colds and in those where allergy may be a factor. Comprehensive in formulation, AMBENYL EXPECTORANT includes selected demulcent and expectorant agents, **plus** Ambodryl,® for potent antihistaminic action, and Benadryl,® for antihistaminic-antispasmodic effect. These components promptly control frequency and severity of any uncomplicated cough because they soothe irritated respiratory mucosa, make cough more productive, relax bronchial spasm, and relieve congestive symptoms.

AMBENYL EXPECTORANT contains in each fluidounce:

Ambodryl hydrochloride (bromodiphenhydramine hydrochloride, Parke-Davis)	24 mg.
Benadryl hydrochloride (diphenhydramine hydrochloride, Parke-Davis)	56 mg.
Dihydrocodeinone bitartrate	¼ gr.
Ammonium chloride	8 gr.
Potassium guaiacolsulfonate	8 gr.
Menthol	q.s.
Alcohol	5%

Supplied in 16-ounce and 1-gallon bottles.

Dosage: Every three or four hours—adults, 1 to 2 teaspoonfuls; children, ½ to 1 teaspoonful.

MEDICAMENTA VERA

PARKE, DAVIS & COMPANY
DETROIT 32, MICHIGAN

Lift the depressed patient up to normal without fear of overstimulation . . .

with new

Ritalin®

A HAPPY MEDIUM IN PSYCHOMOTOR STIMULATION

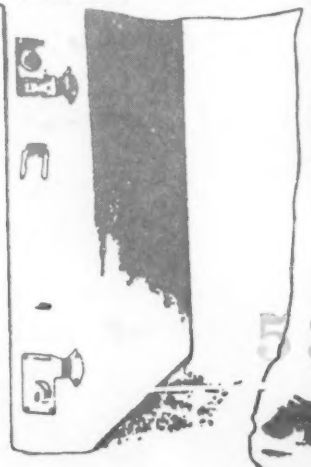
• *Boosts the spirits, relieves physical fatigue and mental depression . . . yet has no appreciable effect on blood pressure, pulse rate or appetite.*

Ritalin is a mild, safer central-nervous-system stimulant which gently improves mood, relieves psychogenic fatigue "without let-down or jitters . . ."[1] and counteracts oversedation caused by barbiturates, tranquilizing agents and antihistamines.

Ritalin is not an amphetamine. Except in rare instances it does not produce jitteriness or depressive rebound, and has little or no effect on blood pressure, pulse rate or appetite.

Reference: 1. Pocock, D. G.: Personal communication.

RITALIN® hydrochloride (methyl-phenidylacetate hydrochloride CIBA)



Average dosage: 10 mg. b.i.d. or t.i.d. Although individualization of dosage is always of paramount importance, the high relative safety of Ritalin permits larger doses for greater effect if necessary.

Supplied: Tablets, 5 mg. (yellow) and 10 mg. (blue); bottles of 100, 500 and 1000. Tablets, 20 mg. (peach-colored); bottles of 100 and 1000.

535

2/219346

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